Installation and Maintenance Manual	IM 971-1

Maverick™ I
Commercial Packaged Rooftop Systems

Group: **Applied Air Systems**
Part Number: **IM 971-1**
Date: **July 2010**

Heating & Cooling
Models MPS006B - MPS012B
6 to 12 Tons
R-410A Refrigerant

PERFORMANCE CERTIFIED ™
ARI Standard 210/240
Unitary Small AC
Certification applies only when the complete system is listed with ARI.
www.aridirectory.org

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Contents

Introduction 3
General 3
Checking Product Received 3
Safety Information 3
Major Components 3
Mechanical Installation 4
General 4
Pre-Installation Check-Points 4
Location Considerations 4
Outside Installation 5
Attaching Exhaust and Combustion Air Inlet Hoods 5
Cover Panel Installation/Conversion Procedure 5
Filter Replacement 6
Clearances 6
Rooftop Installation 6
Ductwork 6
Return Air 7
Gas Supply, Condensate Drain 8
Adjusting or Checking Furnace Input 9
Condensate Drain 10
Electrical Installation 11
Wiring 11
Power Supply 11
Hook-Up 12
Internal Wiring 12
208 Volt Applications 12
Customer Supplied Thermostat 12
Optional Factory Supplied Thermostat 13
Wiring Diagrams 14
Physical Data 26
Unit Capacity and Physical Data 26
Electrical Data 28
Compressor and Condenser Motor 28
MCA and MCOP 29
Auxiliary Heater Data 30
Dimensional Data 34
Unit Dimensions 34
Duct Dimensions 35
Curb Dimensions 35
Performance Data 36
Airflow Performance 36
Accessories 41
Economizers: 6–12.5 Tons [21.1–44 kW] 42
Economizers: 6–12.5 Tons [21.1–44 kW] Horizontal Duct Installation 43
Fresh Air Dampers and Power Exhaust 44
Power Exhaust Kit For Economizers: 6–12 Tons [21.1–70.3 Kw] 44
Fresh Air Damper Kit for 6–12.5 Ton [21.1–44.0 Kw] Units 46
Roofcurbs 47
Roofcurbs (Full Perimeter): 6–12.5 Tons [21.1–44.0 kW] 47
Controls and Operation 48
Furnace Section Controls and Ignition System . 48
Normal Furnace Operating Sequence 48
Operating Instructions 49
Burners 50
Manual Reset Over-Temperature Control . . 50
Pressure Switch 50
Limit Control 50
Maintenance 51
General 51
Advise The Customer 51
Unit Maintenance 51
Furnace Section 51
Lubrication 52
Cooling Section Maintenance 52
System Charging Charts 53
Troubleshooting 58
Cooling Troubleshooting Chart 58
Furnace Troubleshooting Guide 59
Warranty 61
Replacement Parts 61

General

This manual contains the installation and operating instructions for your packaged rooftop system. There are some precautions that should be taken to derive maximum satisfaction from it. Improper installation can result in unsatisfactory operation or dangerous conditions.

Read this manual and any instructions packaged with separate equipment prior to installation. Give this manual to the owner and explain its provisions. The owner should retain this manual for future reference.

This product line does have an optional DDC controller. For operation and information on using and programming the MicroTech II unit controller, refer to the appropriate operation manual (see Table 1).

For a description of operation and information on using the keypad to view data and set parameters, refer to the appropriate program-specific operation manual (see Table 1).

Table 1: Operation, Installation and Maintenance Resources

Unit	Manual
Rooftop unit control configuration	Operation manual bulletin number
DDC Unit Controller	OM 1077
BACnet Communication Module	IM 1000
LonWorks Communication Module	IM 999

Checking Product Received

Upon receiving the unit, inspect it for any damage from shipment. Claims for damage, either shipping or concealed, should be filed immediately with the shipping company. **IMPORTANT:** Check the unit model number, heating size, electrical characteristics, and accessories to determine if they are correct.

Safety Information

⚠ DANGER

The manufacturer's warranty does not cover any damage or defect to the air conditioner caused by the attachment or use of any components, accessories or devices (other than those authorized by the manufacturer) into, onto, or in conjunction with the air conditioner. you should be aware that the use of unauthorized components, accessories or devices may adversely affect the operation of the air conditioner and may also endanger life and property. The manufacturer disclaims any responsibility for such loss or injury resulting from the use of such unauthorized components, accessories or devices.

⚠ WARNING

Provide adequate combustion and ventilation air to the unit space as specified in the combustion and ventilation air section of these instructions.

⚠ WARNING

Install this unit only in a location and position as specified in the Mechanical Installation section of these instructions. Provide adequate combustion and ventilation air to the unit space as specified in the venting section of these instructions.

⚠ WARNING

Combustion products must be discharged outdoors. Connect this unit to an approved vent system only, as specified in Mechanical Installation section of these instructions.

⚠ WARNING

Use only with type of gas approved for this unit. Refer to the unit rating plate.

⚠ DANGER

Never test for gas leaks with an open flame. It can cause an explosion or fire resulting in property damage, personal injury or death. Use a commercially available soap solution made specifically for the detection of leaks to check all connections, as specified in the Mechanical Installation section of these instructions.

⚠ WARNING

Always install unit to operate within the unit's intended temperature-rise range with a duct system which has an external static pressure within the allowable range, as specified in the Mechanical Installation section of these instructions. See also unit rating plate.

⚠ DANGER

Units are not design certified to be installed inside the structure. Doing so can cause inadequate unit performance as well as property damage and carbon monoxide poisoning resulting in personal injury or death.

Major Components

The unit includes a hermetically-sealed refrigerating system consisting of a scroll compressor, condenser coil, evaporator coil with capillary tube assembly, circulation air blower, condenser fan, heat exchanger assembly, gas burner and control assembly, combustion air motor and fan, and all necessary internal electrical wiring. The unit's cooling system is factory-evacuated, charged and performance tested. Refrigerant amount and type are indicated on rating plate.

The unit is available in 150,000, 225,000 and 252,000 BTUH heating input. Cooling capacity is 6.5, 7.5, 8.5, 10 and 12 nominal tons. Units are convertible from bottom supply and return to side supply and return by relocation of supply and return air cover panels. The units are weatherized for mounting outside of the building.

Mechanical Installation

General

⚠ WARNING

When a unit is installed so that supply ducts carry air circulated by the unit to areas outside the space containing the unit, the return air shall also be handled by duct(s) sealed to the unit casing and terminating outside the space containing the unit.

Install this unit in accordance with The American National Standard Z223.1-latest edition manual entitled "National Fuel Gas Code," and the requirements or codes of the local utility or other authority having jurisdiction.

Additional helpful publications available from the "National Fire Protection Association" are: sNFPA-90A - Installation of Air Conditioning and Ventilating Systems 1985 or latest edition. NFPA-90B - Warm Air Heating and Air Conditioning Systems 1984.

These publications are available from:

National Fire Protection Association, Inc.
Batterymarch Park
Quincy, MA 02269

Pre-Installation Check-Points

1. Before attempting any installation, carefully consider the following points:
   - **a** Structural strength of supporting members (rooftop installation)
   - **b** Clearances and provision for servicing power supply and wiring
   - **c** Gas supply and piping
   - **d** Air duct connections and sizing
   - **e** Drain facilities and connections
   - **f** Location for minimum noise and vibration - away from bedroom windows

Location Considerations

The metal parts of this unit may be subject to rust or deterioration in adverse environmental conditions. This oxidation could shorten the equipment's useful life. Salt spray, fog or mist in seacoast areas, sulphur or chlorine from lawn watering systems, and various chemical contaminants from industries such as paper mills and petroleum refineries are especially corrosive.

If the unit is to be installed in an area where contaminants are likely to be a problem, give special attention to the equipment location and exposure.

1. Avoid having lawn sprinkler heads spray directly on the unit cabinet.
2. In coastal areas, locate the unit on the side of the building away from the waterfront.
3. Shielding by a fence or shrubs may give some protection.
4. Frequent washing of the cabinet, fan blade and coil with fresh water will remove most of the salt or other contaminants that build up on the unit.
5. Regular cleaning and waxing of the cabinet with a good automobile polish will provide some protection.
6. A good liquid cleaner may be used several times a year to remove matter that will not wash off with water.

Several different types of protective coatings are offered in some areas. These coatings may provide some benefit, but the effectiveness of such coating materials cannot be verified by the equipment manufacturer.

The best protection is frequent cleaning, maintenance, and minimal exposure to contaminants.

⚠ WARNING

This unit may be used to heat the building or structure during construction if the following installation requirements are met. Installation must comply with all installation instructions including:

- Proper vent installation
- Furnace operating under thermostatic control
- Return air duct sealed to the furnace
- Air filters in place
- Set furnace input rate and temperature rise per rating plate marking
- Means of providing outdoor air required for combustion
- Return air temperature maintained between 55°F (13°C) and 80°F (27°C)
- Installation of exhaust and combustion air inlet hoods completed
- Clean furnace, duct work and components upon substantial completion of the construction process, and verify furnace operating conditions including ignition, input rate, temperature rise and venting, according to the instructions.

Outside Installation

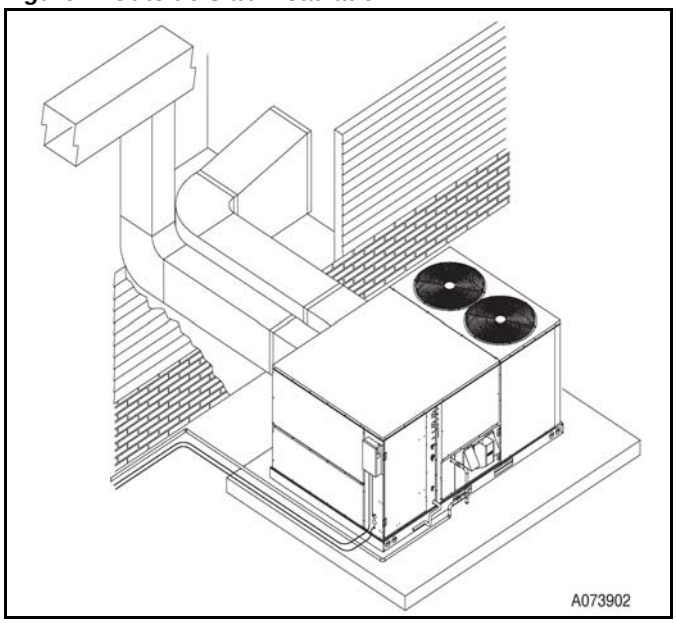
⚠ DANGER

These units are designed certified for outdoor installation only. Installation inside any part of a structure can result in inadequate unit performance as well as property damage. Installation inside can also cause recirculation of flue products into the conditioned space resulting in personal injury or death.

(Typical outdoor slab installation is shown in Figure 1.)

1. Select a location where external water drainage cannot collect around unit.
2. Provide a level slab sufficiently high enough above grade to prevent surface water from entering the unit
3. Locate the unit to provide proper access for inspection and servicing as shown in Figure 3, page 6.
4. Locate unit where operating sounds will not disturb owner or neighbors.

Figure 1: Outside Slab Installation



5. Locate unit so roof runoff water does not pour directly on the unit. Provide gutter or other shielding at roof level.Do not locate unit in an area where excessive snow drifting may occur or accumulate.
6. Where snowfall is anticipated, the height of the unit above the ground level must be considered. Mount unit high enough to be above anticipated maximum area snowfall and to allow combustion air to enter the combustion air inlet.
7. Select an area which will keep the areas of the vent, air intake, and A/C condenser fins free and clear of obstructions such as weeds, shrubs, vines, snow, etc.Inform the user accordingly.
8. Remove compressor shipping supports (if so equipped) after installation.

Attaching Exhaust and Combustion Air Inlet Hoods

IMPORTANT: Do not operate this unit without the exhaust/combustion air inlet hood properly installed. This hood is shipped in a carton in the blower compartment inside the unit and must be attached when the unit is installed. See Figure 34, page 42.

To attach exhaust/combustion air inlet hood:

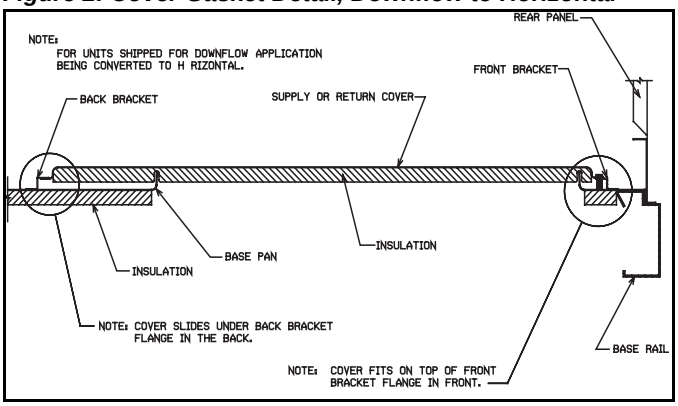
1. Remove screws securing blower access panel and remove access panel. For location of blower access panel, see Figure 26, page 34.
2. Remove exhaust/combustion air inlet hood from the carton, located inside the blower compartment.
3. Attach blower access panel.
4. Attach the combustion air inlet/exhaust hood with screws. Reference Figure 26, page 34 for proper location. Screws are in carton with the hood.
5. Vent the unit using the flue exhaust hood, as supplied from the factory, without alteration or addition. The only exception is with factory approved additions. Consult your local utility or other authority having jurisdiction for accepted venting techniques.

Cover Panel Installation/Conversion Procedure

Downflow To Horizontal

1. Remove the screws and covers from the outside of the supply and return sections. See Figure 2.
2. Install the covers over the bottom supply and return openings, painted side up, inserting the leading flange under the bracket provided. Place the back flange to top of the front bracket provided. See Figure 2.
3. Secure the return and supply cover to front bracket with one (1) screw.

Figure 2: Cover Gasket Detail, Downflow to Horizontal



Filter Replacement

This unit is provided with 6 - 18” × 18” × 2” disposable filters. When replacing filters, ensure they are inserted fully to the back to prevent bypass.

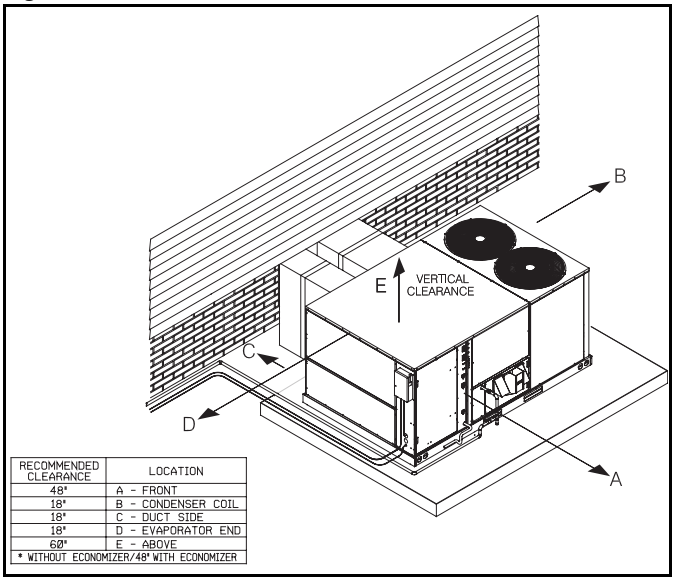
Clearances

The following minimum clearances must be observed for proper unit performance and serviceability (also see Figure 3).

Table 2: Recommended Clearances

Recommended Clearance	Location
48”	A- Front
18”	B - Condenser Coil
18”	C - Duct Side
18”	D - Evaporator End
60”	E - Above
*Without Economizer. 48” With Economizer	

Figure 3: Clearances

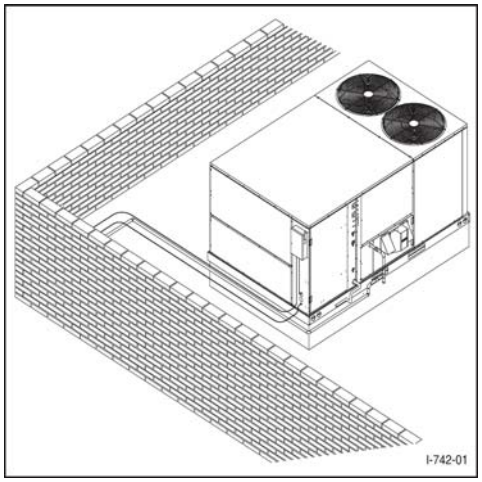


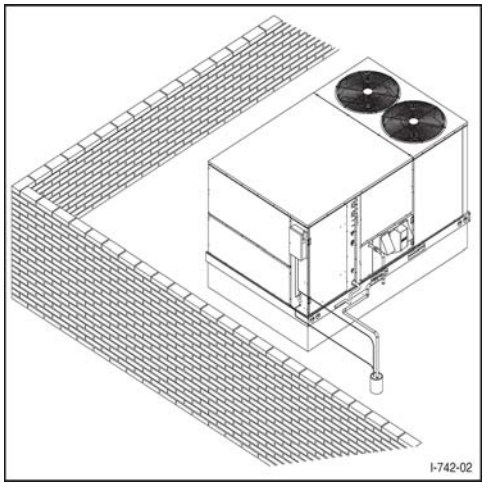
Rooftop Installation

1. Before locating the unit on the roof, make sure that the roof structure is adequate to support the weight involved. (See Electrical & Physical Tables in this manual.) **THIS IS VERY IMPORTANT AND THE INSTALLER'S RESPONSIBILITY.**
2. For rigging and roofcurb details, see Figure 5 through Figure 7.
3. The location of the unit on the roof should be such as to provide proper access for inspection and servicing.

IMPORTANT: If unit will not be put into service immediately, block off supply and return air openings to prevent excessive condensation.

Figure 4: Flat Rooftop Installation, With Attic or Drop Ceiling Distributing System





Ductwork

The installing contractor should fabricate ductwork in accordance with local codes. Use industry manuals as a guide when sizing and designing the duct system. Contact Air Conditioning Contractors of America, 1513 16th St. N.W., Washington, D.C. 20036.

⚠ DANGER

Never connect return ductwork to any other heat producing device such as fireplace insert, stove, etc. Unauthorized use of such devices may result in fire, carbon monoxide poisoning, explosion, personal injury, property damage or death.

Place the unit as close to the conditioned space as possible allowing clearances as indicated. Run ducts as directly as possible to supply and return outlets. Use of non-flammable weatherproof flexible connectors on both supply and return connections at unit to reduce noise transmission is recommended.

On ductwork exposed to outside temperature and humidity, use a minimum of 2" of insulation and a vapor barrier. Distribution system in attic, furred space or crawl space should be insulated with at least 2" of insulation. 1/2" to 1" thick insulation is usually sufficient for ductwork inside the air conditioned space.

Provide balancing dampers for each branch duct in the supply system. Properly support ductwork from the structure.

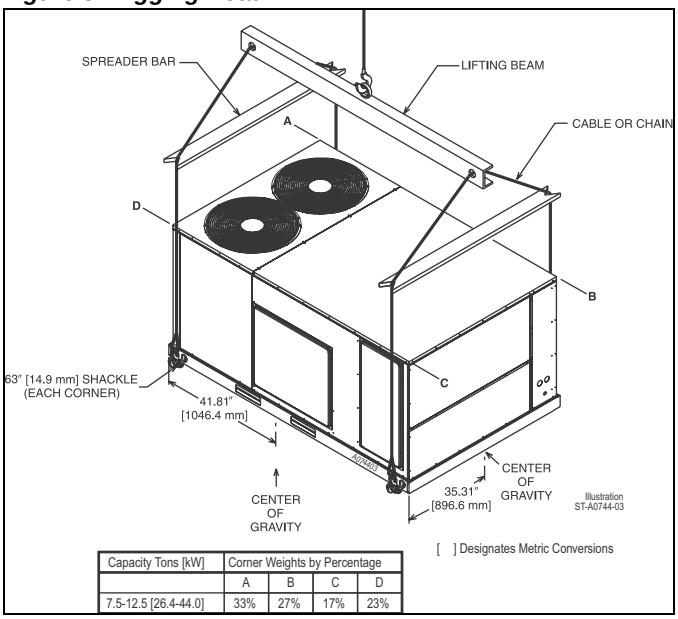
IMPORTANT: In the event that the return air ducts must be run through an “unconfined” space containing other fuel burning equipment, it is imperative that the user be informed against future changes in construction which might change this to a “confined space.” Also, caution the user against any future installation of additional equipment (such as power ventilators), within the existing unconfined and/or confined space which might create a negative pressure within the vicinity of other solid, liquid, or gas fueled units.

Return Air

⚠ DANGER

Never allow products of combustion or the flue products to enter the return air ductwork, or the circulating air supply. All return ductwork must be adequately sealed and secured to the furnace with sheet metal screws and joints must be taped. All other duct joints must be secured with approved connections and sealed airtight.
Failure to prevent products of combustion from being circulated into the living space can create potentially hazardous conditions, including carbon monoxide poisoning that could result in personal injury or death.

Figure 5: Rigging Detail



Capacity Tons [kW]	Corner Weights by Percentage			
	A	B	C	D
7.5-12.5 [26.4-44.0]	33%	27%	17%	23%

Figure 6: Shipping Board Removal

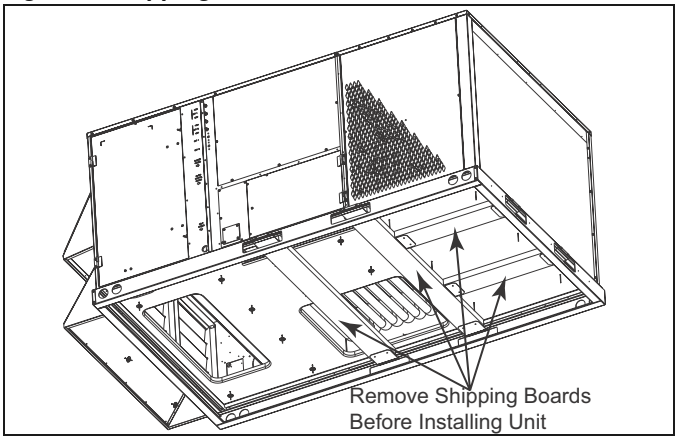
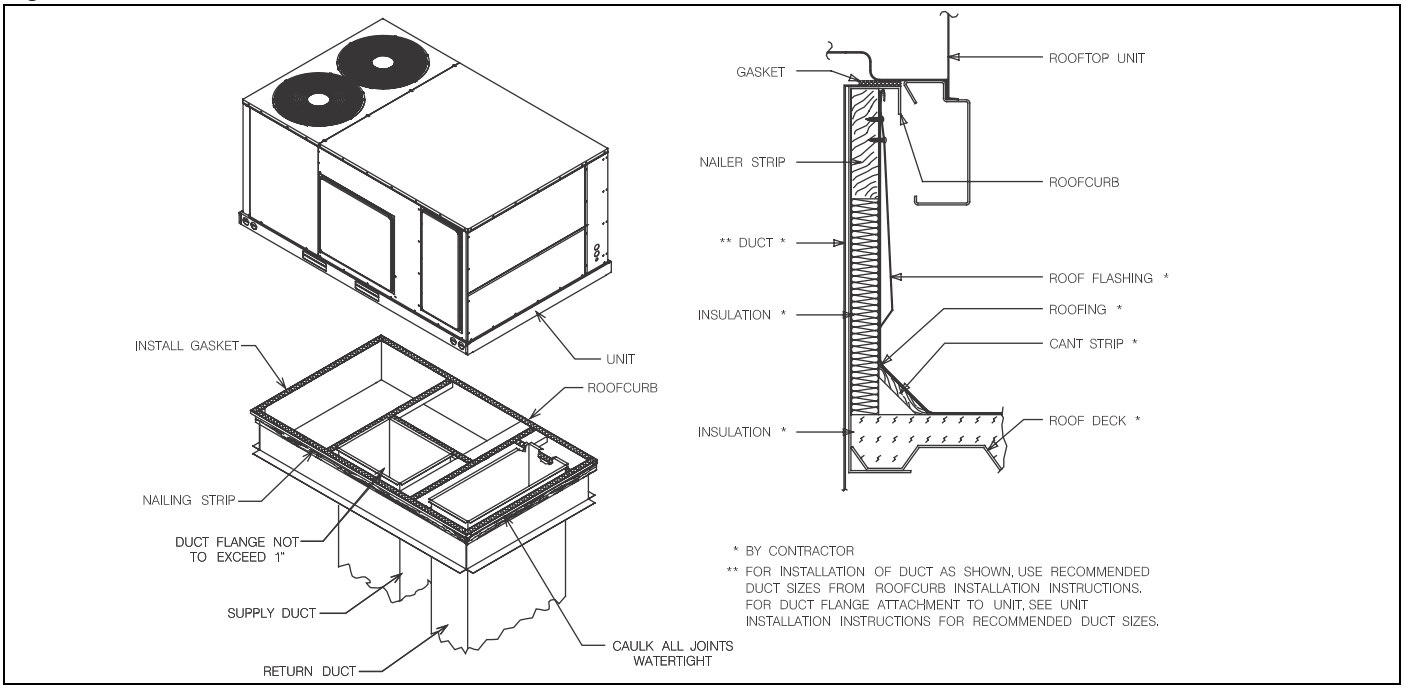


Figure 7: Roofcurb



Gas Supply, Condensate Drain

Gas Connection

IMPORTANT: Connect this unit only to gas supplied by a commercial utility.

1 Install gas piping in accordance with local codes and regulations of the local utility company. In the absence of local codes, the installation must conform to the specifications of the National Fuel Gas Code, ANSI Z223.1 - latest edition.

Note: The use of flexible gas connectors is not permitted.

2 Connect the gas line to the gas valve supplied with unit. Routing can be through the gas pipe opening shown in Figure 26, page 34 or through the base as shown in Figure 11, page 12.

3 Size the gas line to the furnace adequate enough to prevent undue pressure drop and never less than 1/2".

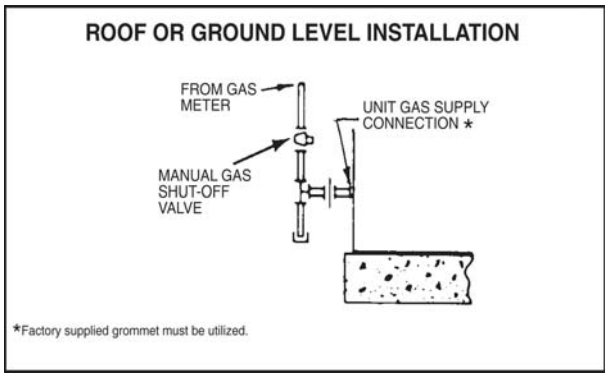
4 Install a drip leg or sediment trap in the gas supply line as close to the unit as possible.

5 Install an outside ground joint union to connect the gas supply to the control assembly at the burner tray.

6 Gas valves have been factory installed. Install a manual gas valve where local codes specify a shut-off valve outside the unit casing (Figure 8).

7 Make sure piping is tight. **A pipe compound resistant to the action of liquefied petroleum gases must be used at all threaded pipe connections.**

Figure 8: Suggested Gas Piping


ROOF OR GROUND LEVEL INSTALLATION
FROM GAS METER
UNIT GAS SUPPLY CONNECTION *
MANUAL GAS SHUT-OFF VALVE
*Factory supplied grommet must be utilized.

8 IMPORTANT: Any additions, changes or conversions required for the furnace to satisfactorily meet the application should be made by a qualified installer, service agency or the gas supplier, using factory-specified or approved parts. In the commonwealth of Massachusetts, installation must be performed by a licensed plumber or gas fitter for appropriate fuel.

IMPORTANT: Disconnect the furnace and its individual shutoff valve from the gas supply piping during any pressure testing of that system at test pressures in excess of 1/2 pound per square inch gauge or isolate the system from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of this gas supply system at pressures equal to or less than 1/2 PSIG.

⚠ DANGER

Never test for gas leaks with an open flame. It can cause an explosion or fire resulting in property damage, personal injury or death. Use a commercially available soap solution made specifically for the detection of leaks to check all connections as specified in the “Mechanical Installation” section of these instructions.

IMPORTANT: Check the rating plate to make certain the unit is equipped to burn the type of gas supplied. Care should be taken after installation of this equipment that the gas control valve not be subjected to high gas supply line pressure.In making gas connections, avoid strains as they may cause noise and damage the controls. A backup wrench is required to be used on the valve to avoid damage.

Table 3: Gas Pipe Capacity Table (Cu. Ft./Hr.)

Nominal Iron Pipe Size	Equivalent Length of Pipe, Feet							
	10	20	30	40	50	60	70	80
1/2”	132	92	73	63	56	50	46	43
3/4”	278	190	152	130	115	105	96	90
1”	520	350	285	245	215	195	180	170
1-1/4”	1,050	730	590	500	440	400	370	350
1-1/2”	1,600	1,100	890	760	670	610	560	530

The capacities of gas pipe of different diameters and lengths in cu.ft. per hr. with pressure drop of 0.3 in. and specific gravity of 0.60 (natural gas) are shown in Table 1.

After determining the pipe length, select the pipe size which will provide the minimum cubic feet per hour required for the gas input rating of the furnace. By formula:

$$\text{Cu. Ft. per Hr. Required} = \frac{\text{Gas Input of Furnace (BTU/Hr)}}{\text{Heating Value of Gas (BTU/Ft}^3\text{)}}$$

The gas input of the furnace is marked on the furnace rating plate. The heating value of the gas (BTU/Ft^3) may be determined by consulting the local natural gas utility or the LP gas supplier.

LP Conversion

⚠ DANGER

This unit is equipped at the factory for use with natural gas only. Conversion to LP gas requires a special kit supplied by the distributor or manufacturer. Mailing addresses are listed on the furnace rating plate, parts list and warranty. Failure to use the proper conversion kit can cause fire, carbon monoxide poisoning, explosion, personal injury, property damage, or death.

Convert the unit to use liquefied petroleum (LP) gas by replacing with the gas valve supplied in the conversion kit.

The LP gas valve maintains the proper manifold pressure for LP gas. The correct burner LP orifices are included in the kit.

IMPORTANT: To remove the natural gas valve, remove the four screws securing the manifold pipe to the burner tray. Remove the manifold pipe with gas valve attached.

Note: Order the correct LP conversion kit from the furnace manufacturer. See Conversion Kit Index shipped with unit for proper LP kit number. Furnace conversion to LP gas must be performed by a qualified technician.

Adjusting or Checking Furnace Input

Gas Type	Line pressure (in wc)	Manifold Pressure
Natural Gas	5 - 10.5	3.5
LP Gas	11-13	10

Supply and manifold pressure taps are located on the gas valve body 1/8" N.P.T. and on the manifold.

Use a properly calibrated manometer gauge for accurate gas pressure readings.

Only small variations in the gas flow should be made by means of the pressure regulator adjustment. Furnaces functioning on LP gas must be set by means of the tank or branch supply regulators. The furnace manifold pressure should be set at 10" W.C. at the gas control valve.

To adjust the pressure regulator, remove the regulator cap and turn the adjustment screw clockwise to increase pressure or counterclockwise to decrease pressure. **Then replace the regulator cap securely.**

Any necessary major changes in the gas flow rate should be made by changing the size of the burner orifices. To change orifice spuds, shut off the manual main gas valve and remove the gas manifold.

For elevations up to 2,000 feet, rating plate input ratings apply. For high altitudes (elevations over 2,000 ft.), contact Daikin Applied Parts. see conversion kit index 92-21519-XX for derating and orifice spud sizes.

Check of input is important to prevent over-firing of the furnace beyond its design-rated input. NEVER SET INPUT ABOVE THAT SHOWN ON THE RATING PLATE. Use the following table or formula to determine input rate.

$$\text{Cu. Ft./Hr. Required} = \frac{\text{Heating Value of Gas (BTU/CuFt) x 3600}}{\text{Time in Seconds for 1 Cu. Ft. of Gas}}$$

Table 4: Meter Time In Minutes And Seconds For Normal Input Rating Of Furnaces Using Natural Or Lp Gas

Input Btu/hr	Meter Size Cu. Ft.	Heating Value Of Gas Btu Per Cu. Ft.									
		900 1000				1040		1100		2500	
		Min.	Sec.	Min.	Sec.	Min.	Sec.	Min.	Sec.	Min.	Sec.
40,000	One	1	21	1	30	1	34	1	39	3	45
	Ten	13	30	15	0	15	36	16	30	37	30
60,000	One	0	54	1	0		3	1	6	2	30
	Ten	9	0	10	0	10	24	11	0	25	0
80,000	One	0	41	0	45	0	47	0	50	1	53
	Ten	6	45	7	30	7	48	8	15	18	45
100,000	One	0	33	0	36	0	38	0	40	1	30
	Ten	5	24	6	0	6	15	6	36	15	0

Table 5: LP Gas Pipe Capacity (Cubic feet per hour)

Nominal Iron Pipe Size, Inches	Length of Pipe, Feet									
	10	20	30	40	50	60	70	80	90	100
1/2	275	189	152	129	114	103	96	89	83	78
3/4	567	393	315	267	237	217	196	182	173	162
1	1,071	732	590	504	448	409	378	346	322	307
1-1/4	2,205	1,496	1,212	1039	913	834	771	724	677	630
1-1/2	3,307	2,299	1,858	1,559	1,417	1,275	1,181	1,086	1,023	976
2	6,221	4,331	3,465	2,992	2,646	2,394	2,205	2,047	1,921	1,811

Start the furnace and measure the time required to burn one cubic foot of gas. Prior to checking the furnace input, make certain that all other gas units are shut off, with the exception of pilot burners. Time the meter with only the furnace in operation.

IMPORTANT NOTE FOR ALTITUDES ABOVE 2,000 FEET (610 METERS): The main burner orifices in your furnace and in these kits are sized for the nameplate input and intended for installations at elevations up to 2,000 feet in the USA or Canada, or for elevations of 2,000 - 4,500 feet (610 -

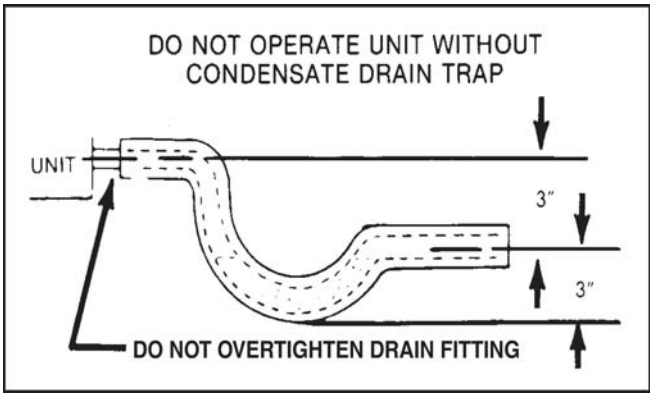
1,373 meters) in Canada if the unit has been derated at the factory. For elevations above 2,000 feet (610 meters) **IN THE USA ONLY** (see ANSIZ223.1), the burner orifices must be sized to reduce the input 4% for each 1,000 feet (305 meters) above sea level.

NOTICE: Derating of the heating input for high altitude in the field is unlawful in Canada (refer to CAN/CGA 2.17). Units installed in altitudes greater than 2,000 feet (610 meters) must be shipped from the factory or from a factory authorized conversion station with the heating input derated by 10% so as to operate properly in altitudes from 2,000 - 4,500 feet (610 1,373 meters).

Condensate Drain

The condensate drain connection of the evaporator is threaded 1" nominal iron pipe. **IMPORTANT:** Install a condensate trap to ensure proper condensate drainage. See Figure 9.

Figure 9: Condensate Drain



Wiring

Power Supply

⚠ DANGER

Power supply to the unit must be disconnected before making field connections. To avoid electrical shock, personal injury or death, be sure to rigorously adhere to field wiring procedures regarding proper lockout and tagout of components.

1. **All wiring should be made in accordance with the National Electrical Code.** Consult the local power company to determine the availability of sufficient power to operate the unit. Check the voltage at power supply to make sure it corresponds to the unit's RATED VOLTAGE REQUIREMENT. Install a branch circuit disconnect near the rooftop, in accordance with the N.E.C., C.E.C. or local codes.
2. It is important that proper electrical power is available at the unit. Voltage should not vary more than 10% from that stamped on the unit nameplate. On three phase units, phases must be balanced within 3%.
3. For branch circuit wiring (main power supply to unit disconnect), the minimum wire size for the length of run can be determined fromTable 6 using the circuit ampacity found on the unit rating plate.
4. For through the base wiring entry reference Figure 18. All fittings and conduit are field supplied for this application. Reference the chart with Figure 26, page 34 for proper hole and conduit size.

Table 6: Minimum Wire Sizes

Unit MCA	Supply Wire Length in Feet					
	50 10	0	150	200	250	300
20	10	8	6	4	4	4
25	10	8	6	4	4	3
30	8	6	4	4	3	2
35	8	6	4	3	2	1
40	8	6	4	3	2	1
45	8	4	3	2	1	1/0
50	6	4	3	2	1	1/0
60	6	4	2	1	1/0	2/0
70	4	3	2	1/0	2/0	3/0
80	4	3	1	1/0	2/0	3/0
90	3	2	1/0	2/0	3/0	4/0
100	3	2	1/0	2/0	3/0	4/0
110	2	1	2/0	3/0	4/0	250
125	1	1	2/0	3/0	4/0	25

Note:

1. For branch circuit wiring (main power supply to unit disconnect), the minimum wire size for the length of run can be determined from this table using the circuit ampacity found on the unit rating plate. From the unit disconnect to unit, the smallest wire size allowable in Table 6 may be used, as the disconnect must be in sight of the unit.
2. Wire size based on 75°C rated wire insulation for 1% voltage drop.
3. For more than 3 conductors in a raceway or cable, see the N.E.C. (C.E.C. in Canada) for derating the ampacity of each conductor.

IMPORTANT: This unit is approved for use with copper conductors only connected to unit contactor.

Warranty will be voided if aluminum wire is connected to unit contactor.

Figure 10: Recommended Branch Circuit Disconnect Location

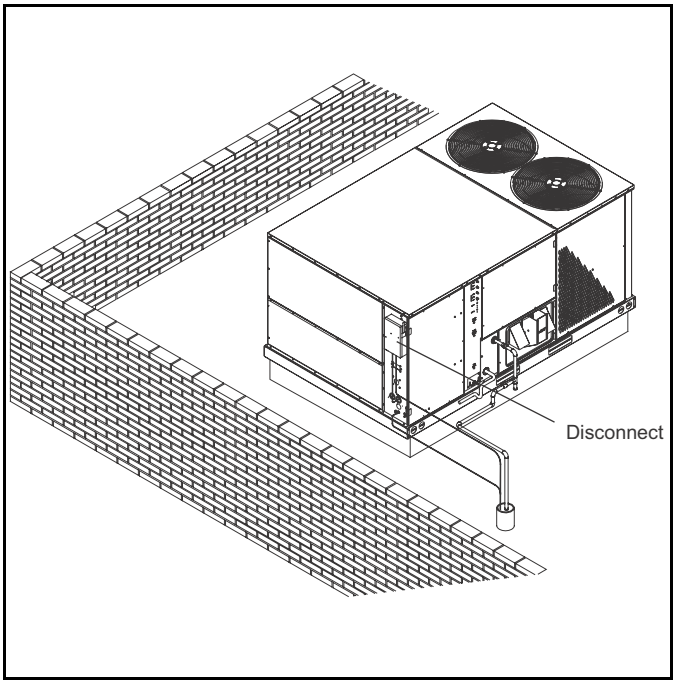


Figure 11: Base Entry Locations

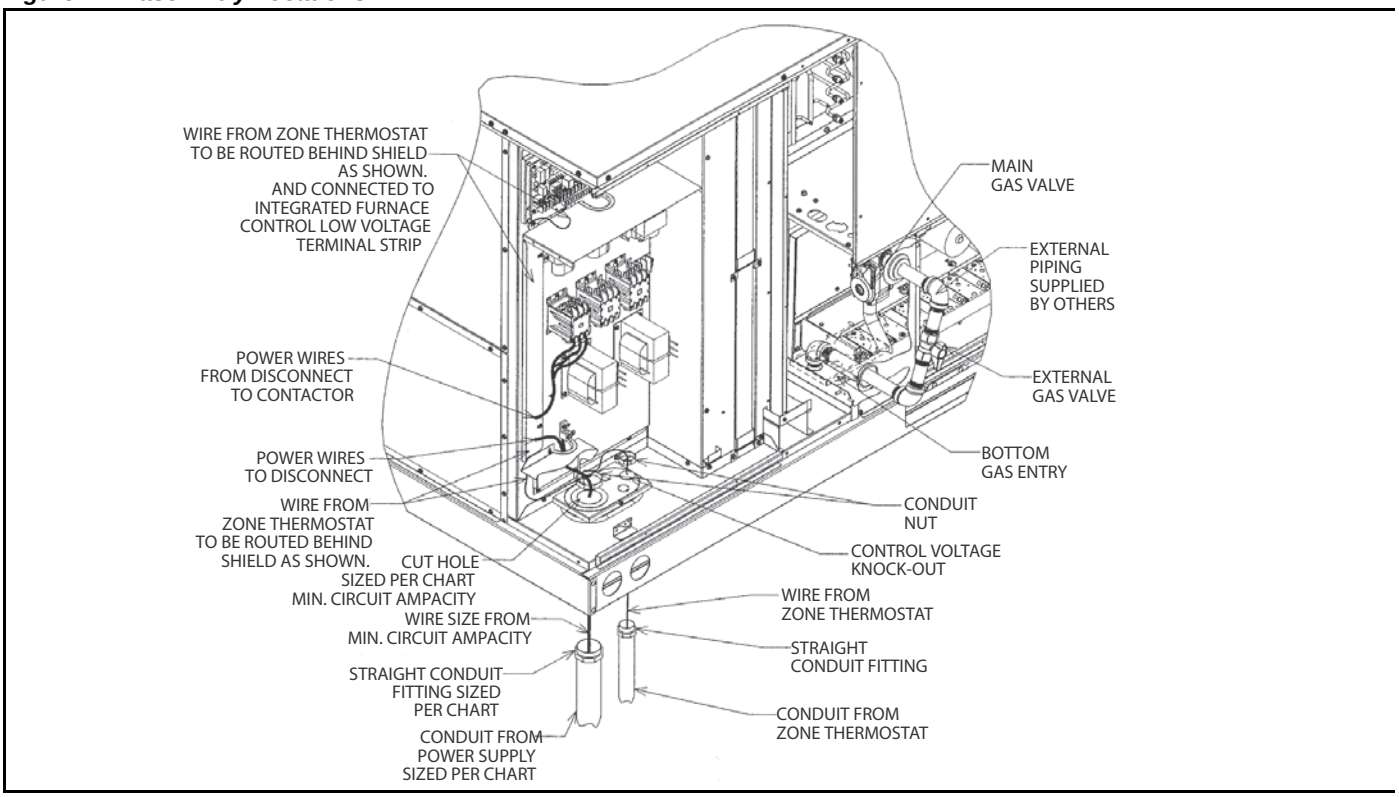

WIRE FROM ZONE THERMOSTAT TO BE ROUTED BEHIND SHIELD AS SHOWN. AND CONNECTED TO INTEGRATED FURNACE CONTROL LOW VOLTAGE TERMINAL STRIP
MAIN GAS VALVE
EXTERNAL PIPING SUPPLIED BY OTHERS
POWER WIRES FROM DISCONNECT TO CONTACTOR
EXTERNAL GAS VALVE
POWER WIRES TO DISCONNECT
BOTTOM GAS ENTRY
WIRE FROM ZONE THERMOSTAT TO BE ROUTED BEHIND SHIELD AS SHOWN.
CONDUIT NUT
CUT HOLE SIZED PER CHART MIN. CIRCUIT AMPACITY
CONTROL VOLTAGE KNOCK-OUT
WIRE FROM ZONE THERMOSTAT
WIRE SIZE FROM MIN. CIRCUIT AMPACITY
STRAIGHT CONDUIT FITTING
STRAIGHT CONDUIT FITTING SIZED PER CHART
CONDUIT FROM ZONE THERMOSTAT
CONDUIT FROM POWER SUPPLY SIZED PER CHART

Table 7: Recommended Wire Sizes

Wire Size, AWG	14	12	10	8 6 4			3 2 1			0	00	000
Conduit Size	1/2”	1/2”	1/2”	3/4”	1”	1”	1-1/4”	1-1/4”	1-1/2”	1-1/2”	2”	2”
Hole Size	7/8”	7/8”	7/8”	1-31/32”	1-23/64”	1-23/64”	1-23/32”	1-23/32”	1-31/32”	1-31/32”	2-15/32”	2-15/32”

Hook-Up

To wire unit, refer to the following hook-up diagram. Refer to Figure 11, page 12 and Figure 26, page 34 for location of wiring entrances. Wiring to be done in the field between the unit and devices not attached to the unit, or between separate devices which are field installed and located, shall conform with the temperature limitation for Type T wire [63°F rise (35°C)] when installed in accordance with the manufacturer's instructions.

Internal Wiring

A diagram of the internal wiring of this unit is located on the inside of control access panel and in this manual. If any of the original wire as supplied with the unit must be replaced, the wire gauge and insulation must be same as original wiring.

208 Volt Applications

Transformer is factory wired for 230 volts on 208/230 volt models and must be changed for 208 volt applications. See unit wiring diagram for 208 volt wiring.

Customer Supplied Thermostat

The customer supplied room thermostat must be compatible with the spark ignition control on the unit. Generally, all thermostats that are not of the “current robbing” type are compatible with the integrated furnace control. The low voltage wiring should be sized as shown in Table 8.

Table 8: Field Wire Size for 24 Volt Thermostat

Thermostat Load Amps		Solid Copper Wire, AWG					
	3.0	16	14	12	10	10	10
	2.5	16	14	12	12	10	10
	2.0	18	16	14	12	12	10
		50	100	150	200	250	300
		Length of Run -Feet (1)					

Note: (1) The total wire length is the distance from the furnace to the thermostat and back to the furnace.

Note: DO NOT USE CONTROL WIRING SMALLER THAN NO. 18 AWG.

Install the room thermostat in accordance with the instruction sheet packed in the box with the thermostat.

See Figure 13, page 14 for an example of a typical customer supplied wiring diagram.

Optional Factory Supplied Thermostat

Figure 12: Optional Thermostat

The optional factory supplied, touch screen, commercial setback digital thermostat (Figure 12) uses microcomputer technology to provide precise time and temperature control. This thermostat offers the flexibility to design heating and cooling programs that fit building needs (Table 9). This thermostat is adaptable to most residential 24 volt forced air multi-stage systems with electric or fossil fuel auxiliary and is the ultimate for comfort, convenience, and performance.

See Figure 14, page 14 for an optional factory supplied thermostat wiring diagram.

Table 9: Optional Factory Supplied Thermostat Specifications

Electrical Rating Single Stage:	mV to 30 V (ac), NEC Class II, 50/60 Hz or DC
Electrical Rating Staging:	20 to 30 V (ac), NEC Class II
Terminal Load:	1.5 A per terminal, 2.5 A max. combined
Setpoint Range:	45° to 99°F (7° to 37°C)
Anticipation, Heating:	Adjustable
Anticipation, Cooling:	Adjustable
Rated Differential Single Stage:	Heat 0.6°F, Cool 1.2°F
Rated Differential Staging:	Heat 0.6°F, Cool 1.2°F
Operating Ambient:	32° to +105°F (0° to +41°C)
Operating Humidity	90% non-condensing max.
Shipping Temperature Range:	-4° to 150°F (-20° to 65°C)
Dimensions (H x W x D):	4.6” x 5.9” x 1.2”

Table 10: Thermostat Terminal Functions

Y2	2nd Stage Compressor
Y	Compressor Relay
G	Fan Relay
RC	Power for Cooling
RH	Power for Heating
C	Common wire from secondary side of cooling (Optional). Required for fault indication, continuous backlight operation or remote temperature sensor operation
L	Malfunction indicator for systems with malfunction connection
W/E	Heat Relay/Emergency Heat Relay (Stage 1)
W2	2nd Stage Heat (3rd Stage Heat in HP2)
Blank	Blank
-	Common (DC) for wired remote temperature sensor
S	Frequency signal from remote temperature sensor
+	Power (DC) to remote temperature sensor

Electrical Installation

Wiring Diagrams

Figure 13: Typical Customer Supplied Thermostat Wiring Diagram

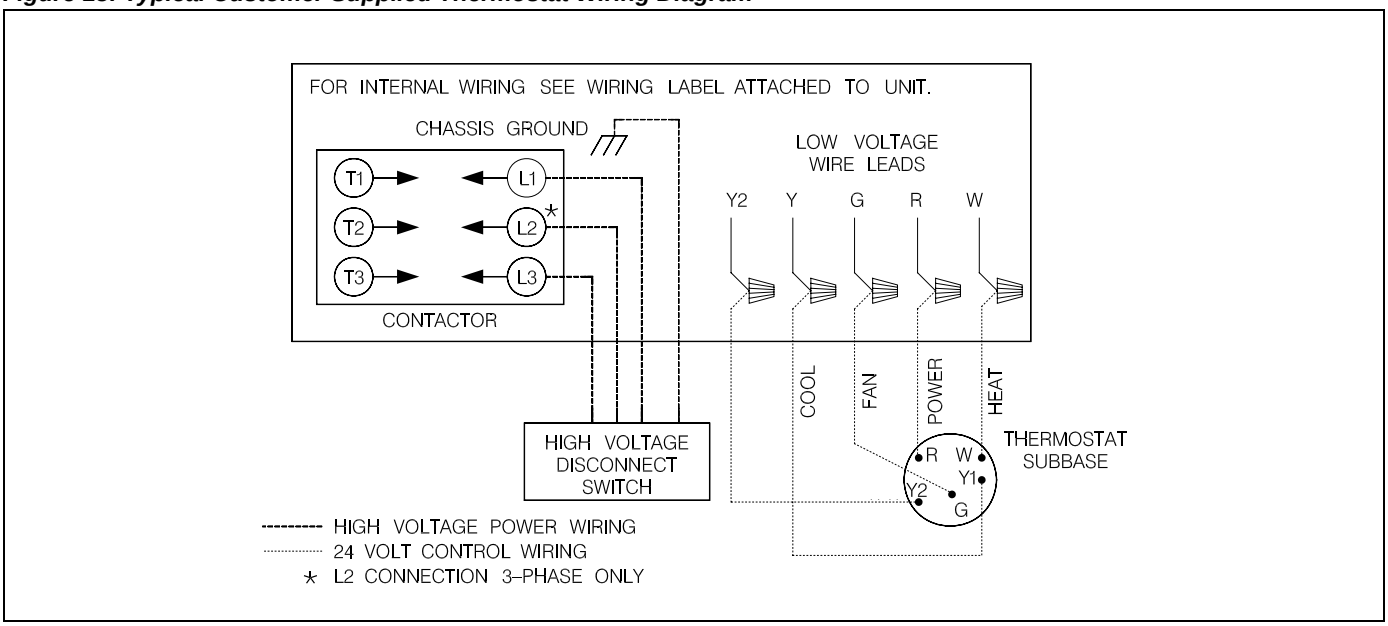
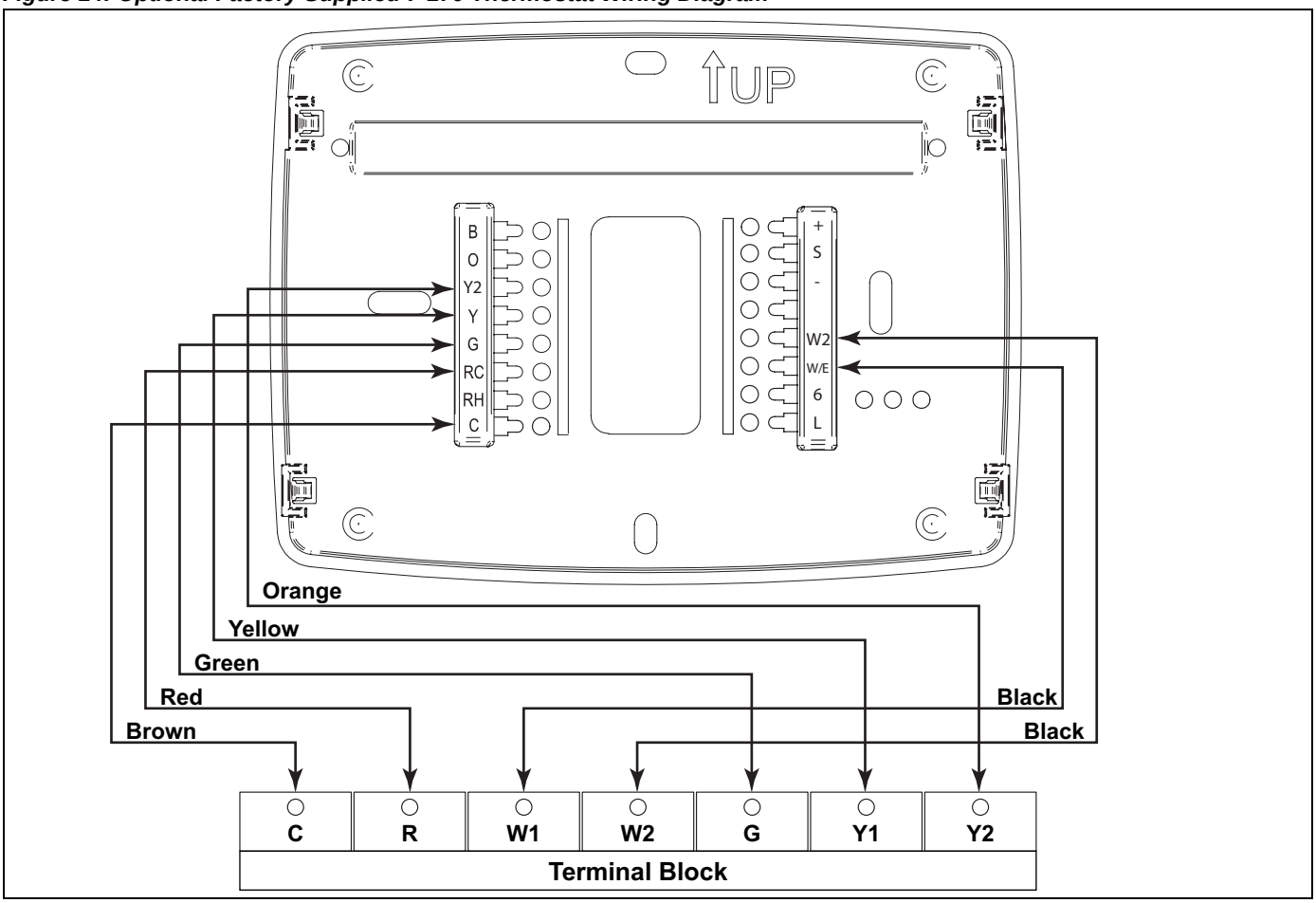


Figure 14: Optional Factory Supplied 7-170 Thermostat Wiring Diagram



1) On 3 to 5 ton units, a terminal block is not supplied. Use a wirenut to extend from the leads provided in the unit to the thermostat. W1, W2, and Y2 are optional depending upon the size and selected options of the unit. Colors shown above are typical for the MPS I.

2) For wiring with DDC control option, see OM 1077 for wiring instructions.

Figure 15: Wiring Diagram: MPS 006B – 007B, 208-230/460 Volt (Cooling Only – Single Stage)

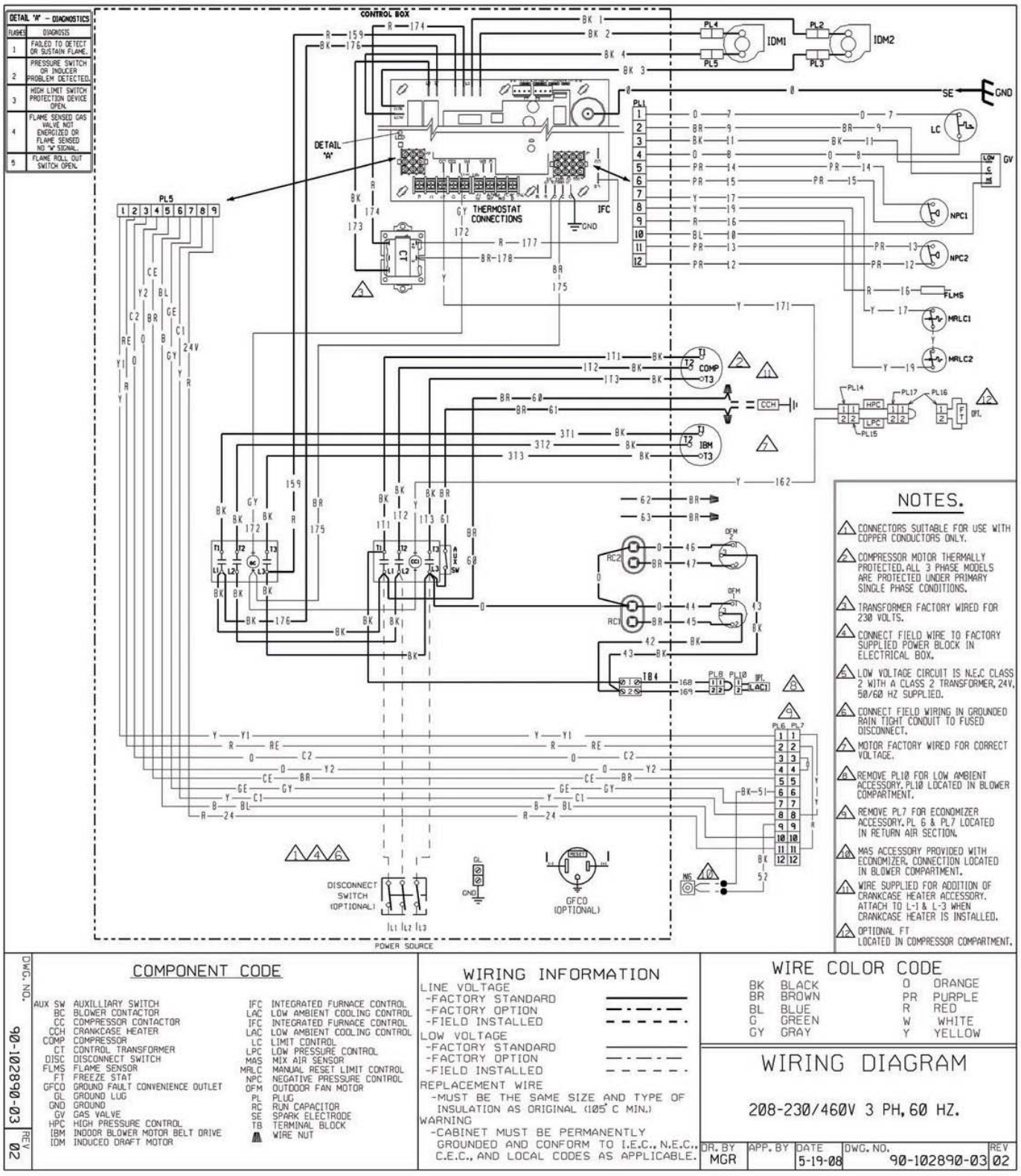
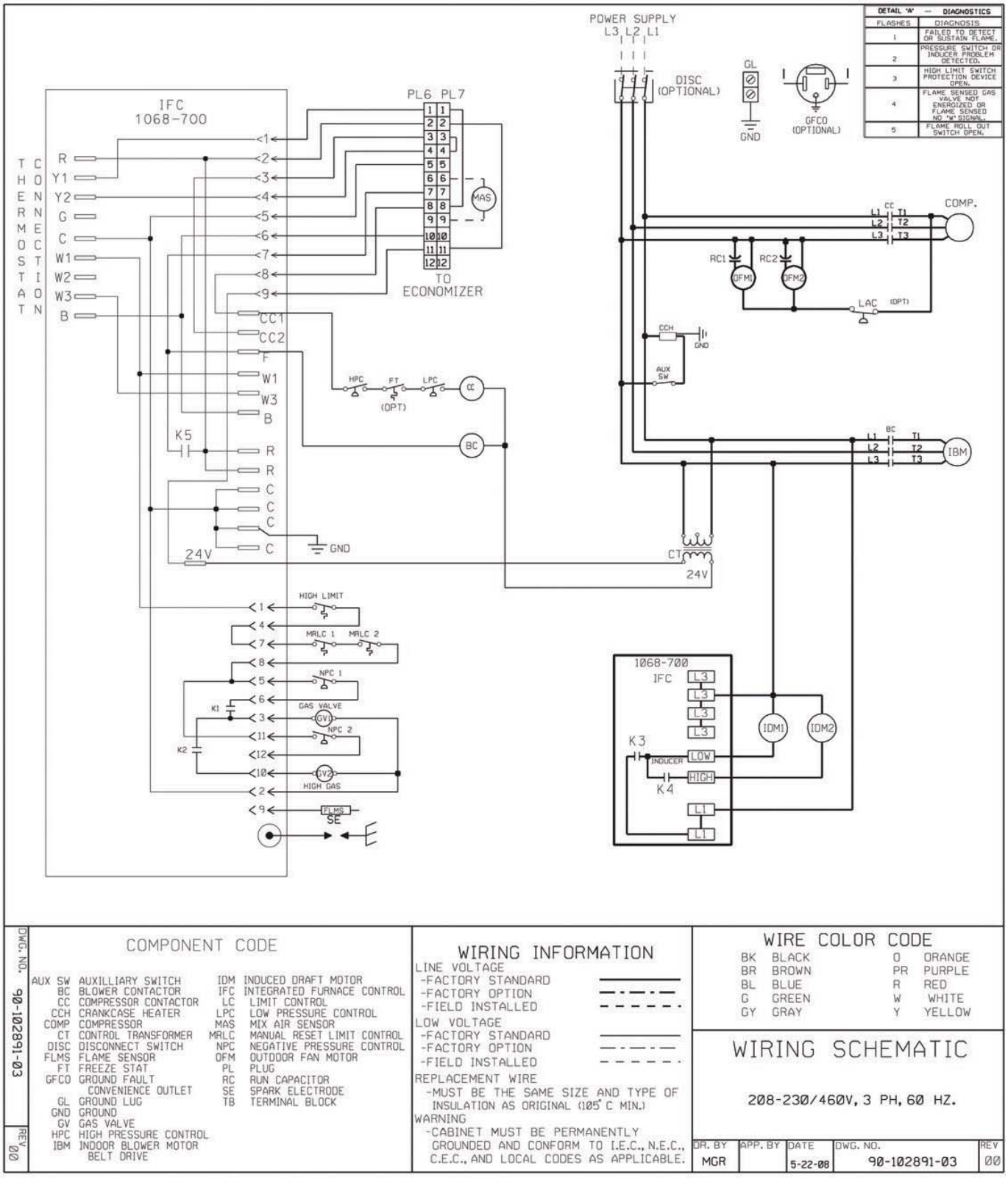


Figure 16: Wiring Diagram: MPS 006B – 007B, 208-230/460 Volt (Gas Heat – Single Stage)



DWG. NO. 90-102891-03 REV 00

COMPONENT CODE

AUX SW	AUXILLIARY SWITCH	IDM	INDUCED DRAFT MOTOR
BC	BLOWER CONTACTOR	IFC	INTEGRATED FURNACE CONTROL
CC	COMPRESSOR CONTACTOR	LC	LIMIT CONTROL
CCH	CRANKCASE HEATER	LPC	LOW PRESSURE CONTROL
COMP	COMPRESSOR	MAS	MIX AIR SENSOR
CT	CONTROL TRANSFORMER	MRLC	MANUAL RESET LIMIT CONTROL
DISC	DISCONNECT SWITCH	NPC	NEGATIVE PRESSURE CONTROL
FLMS	FLAME SENSOR	OFM	OUTDOOR FAN MOTOR
FT	FREEZE STAT	PL	PLUG
GFCO	GROUND FAULT CONVENIENCE OUTLET	RC	RUN CAPACITOR
GL	GROUND LUG	SE	SPARK ELECTRODE
GND	GROUND	TB	TERMINAL BLOCK
GV	GAS VALVE		
HPC	HIGH PRESSURE CONTROL		
IBM	INDOOR BLOWER MOTOR BELT DRIVE		

WIRING INFORMATION

LINE VOLTAGE
- -FACTORY STANDARD
- -FACTORY OPTION
- -FIELD INSTALLED

LOW VOLTAGE
- -FACTORY STANDARD
- -FACTORY OPTION
- -FIELD INSTALLED

REPLACEMENT WIRE
- -MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)

WARNING
- -CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.

WIRE COLOR CODE

BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
G	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

WIRING SCHEMATIC

208-230/460V, 3 PH, 60 HZ.

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-22-08	90-102891-03	00

Figure 17: Wiring Diagram: MPS 006B – 007B, 575 Volt (Cooling Only – Single Stage)

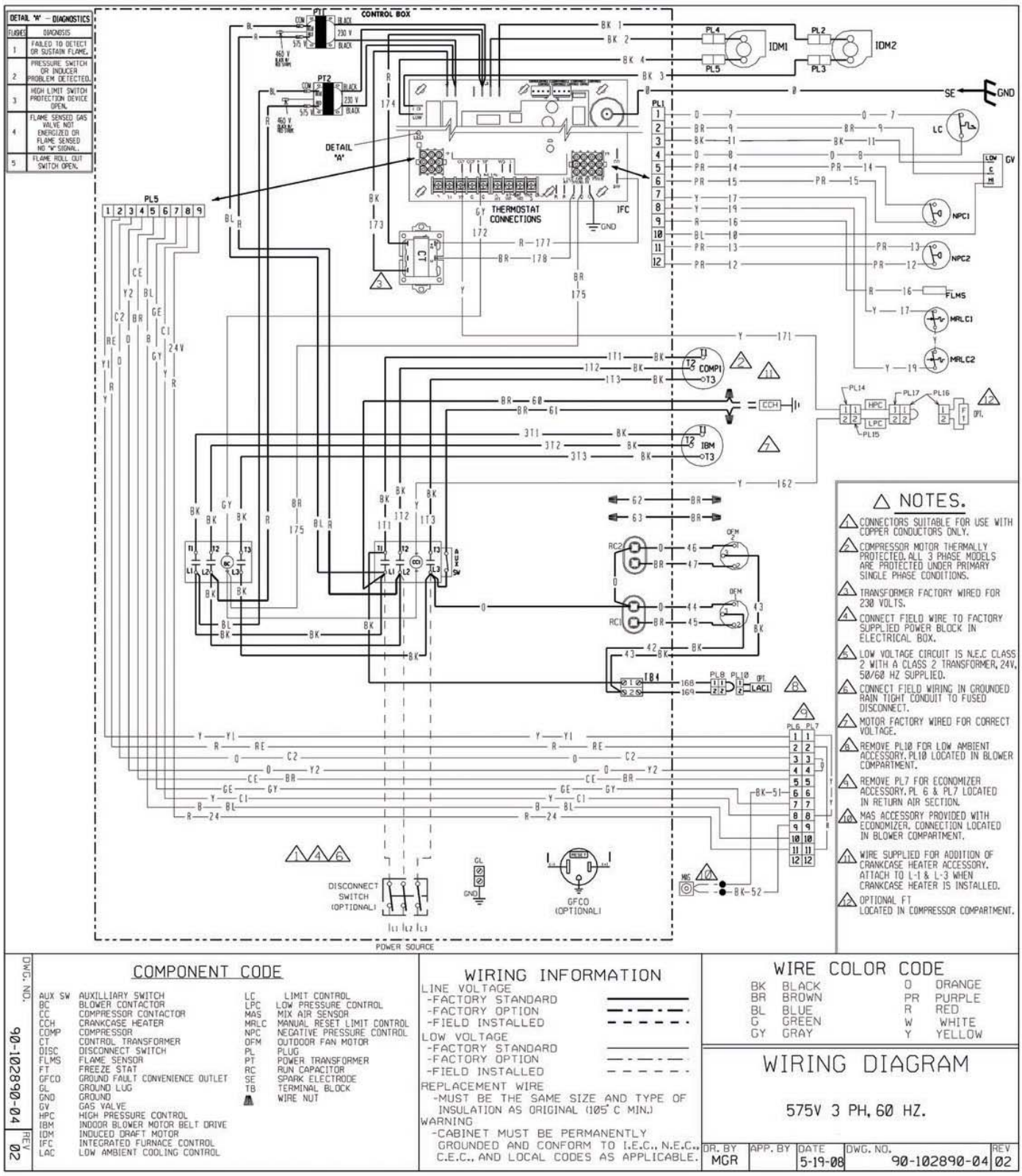


Figure 18: Wiring Diagram: MPS 006B – 007B, 575 V (Gas Heat – Single Stage)

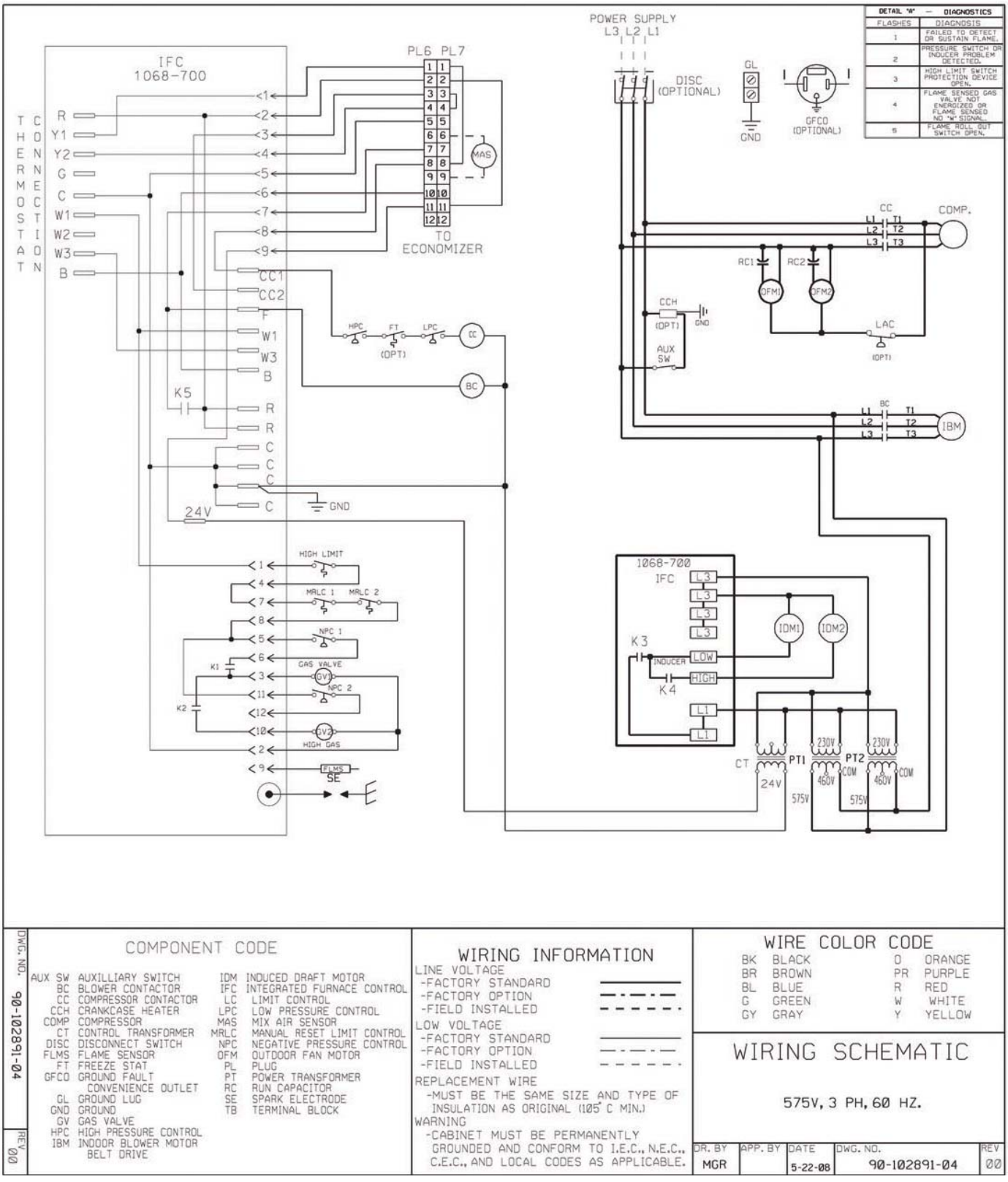


Figure 19: Wiring Diagram: MPS 008B – 012B, 208-230/460 V (Cooling Only)

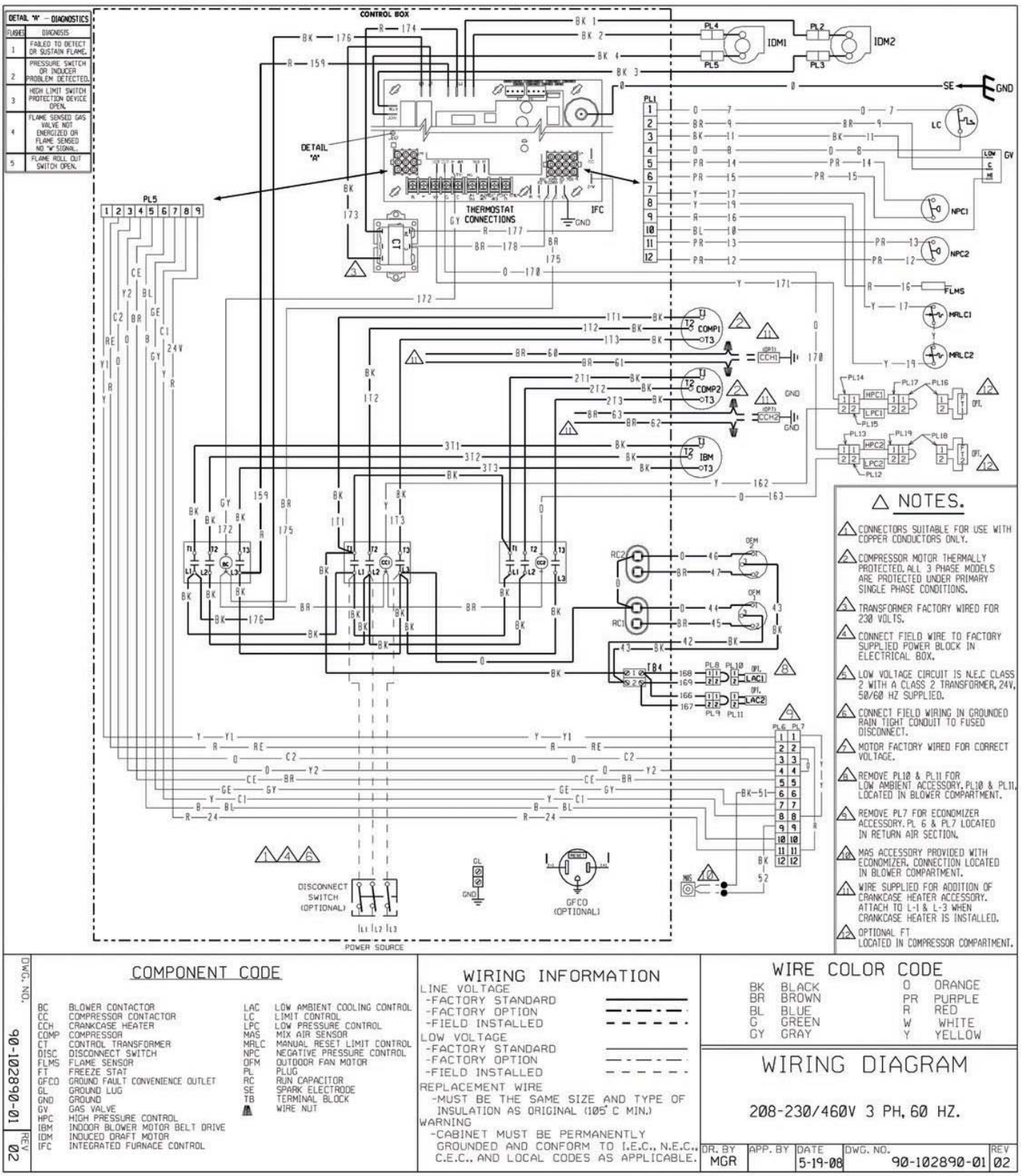
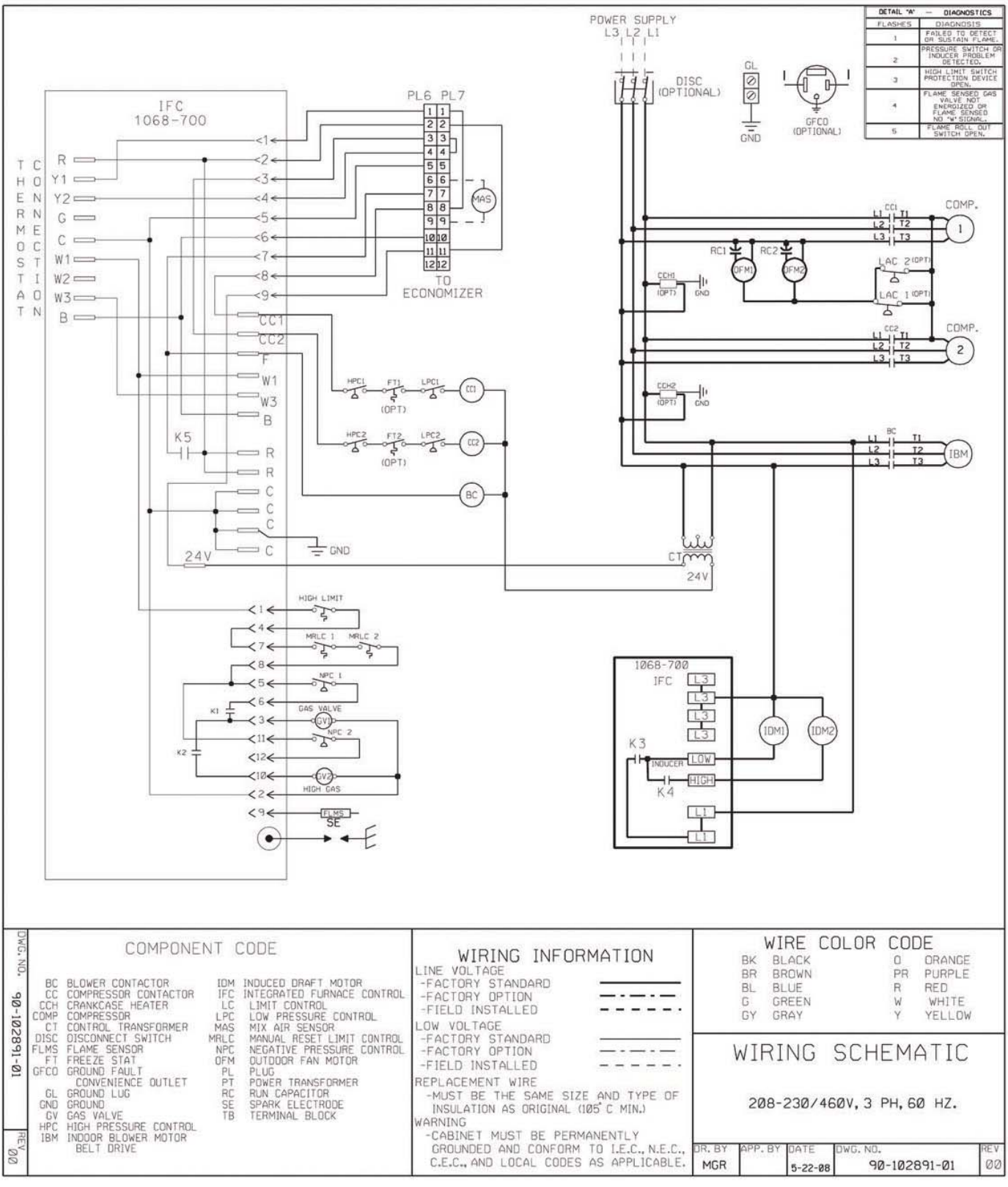


Figure 20: Wiring Diagram: MPS 008B – 012B, 208-230/460 V (Gas Heat)



COMPONENT CODE

BC	BLOWER CONTACTOR	IDM	INDUCED DRAFT MOTOR
CC	COMPRESSOR CONTACTOR	IFC	INTEGRATED FURNACE CONTROL
CCH	CRANKCASE HEATER	LC	LIMIT CONTROL
COMP	COMPRESSOR	LPC	LOW PRESSURE CONTROL
CT	CONTROL TRANSFORMER	MAS	MIX AIR SENSOR
DISC	DISCONNECT SWITCH	MRLC	MANUAL RESET LIMIT CONTROL
FLMS	FLAME SENSOR	NPC	NEGATIVE PRESSURE CONTROL
FT	FREEZE STAT	OFM	OUTDOOR FAN MOTOR
GFCO	GROUND FAULT CONVENIENCE OUTLET	PL	PLUG
GL	GROUND LUG	PT	POWER TRANSFORMER
GND	GROUND	RC	RUN CAPACITOR
GV	GAS VALVE	SE	SPARK ELECTRODE
HPC	HIGH PRESSURE CONTROL	TB	TERMINAL BLOCK
IBM	INDOOR BLOWER MOTOR BELT DRIVE		

WIRING INFORMATION

LINE VOLTAGE
- -FACTORY STANDARD
- -FACTORY OPTION
- -FIELD INSTALLED

LOW VOLTAGE
- -FACTORY STANDARD
- -FACTORY OPTION
- -FIELD INSTALLED

REPLACEMENT WIRE
- -MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)

WARNING
- -CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.

WIRE COLOR CODE

BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
G	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

WIRING SCHEMATIC

208-230/460V, 3 PH, 60 HZ.

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-22-08	90-102891-01	00

DWG. NO. 90-102891-00 REV 00

Figure 21: Wiring Diagram: MPS 008B – 012B, 575 V (Cooling Only)

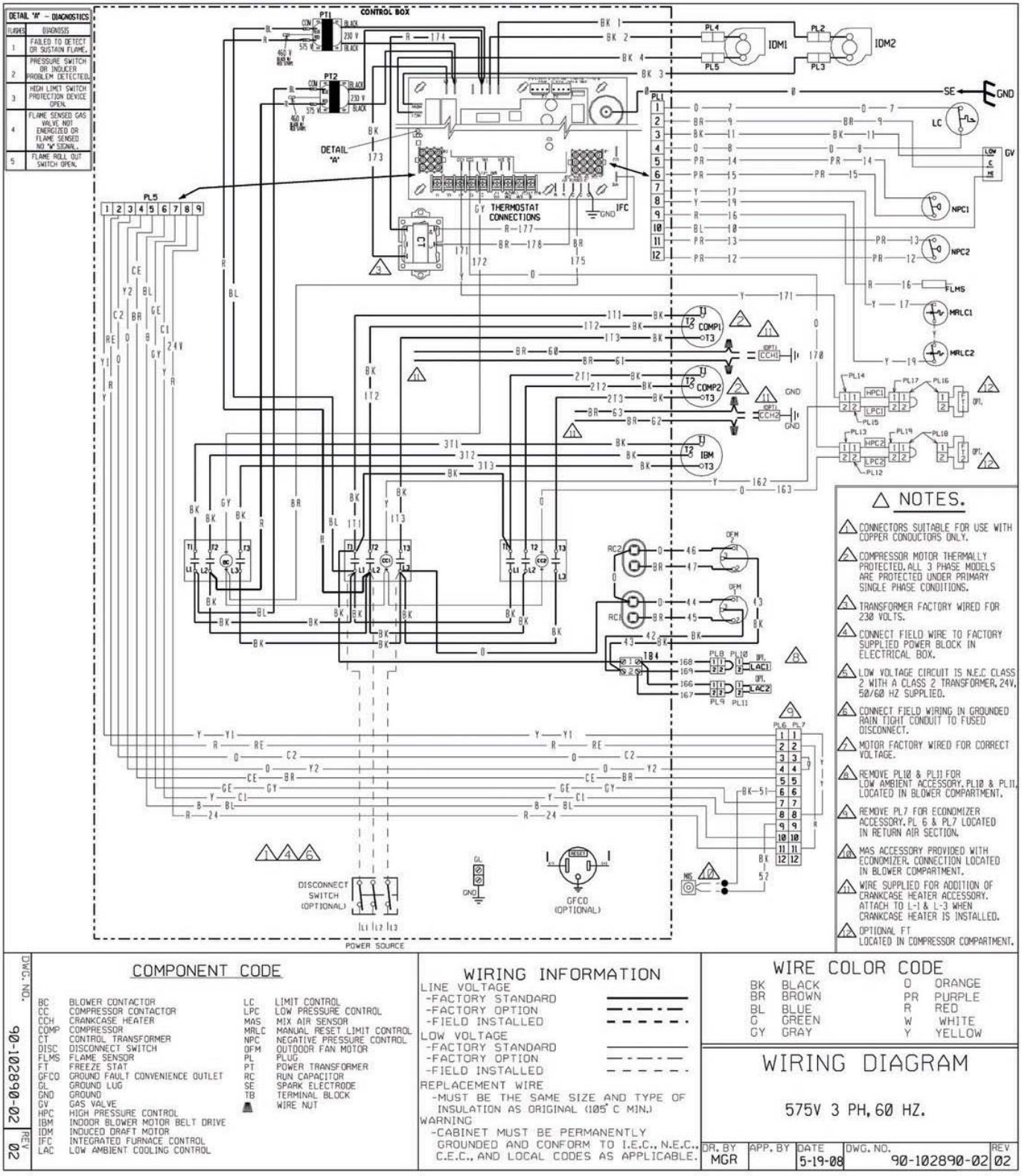
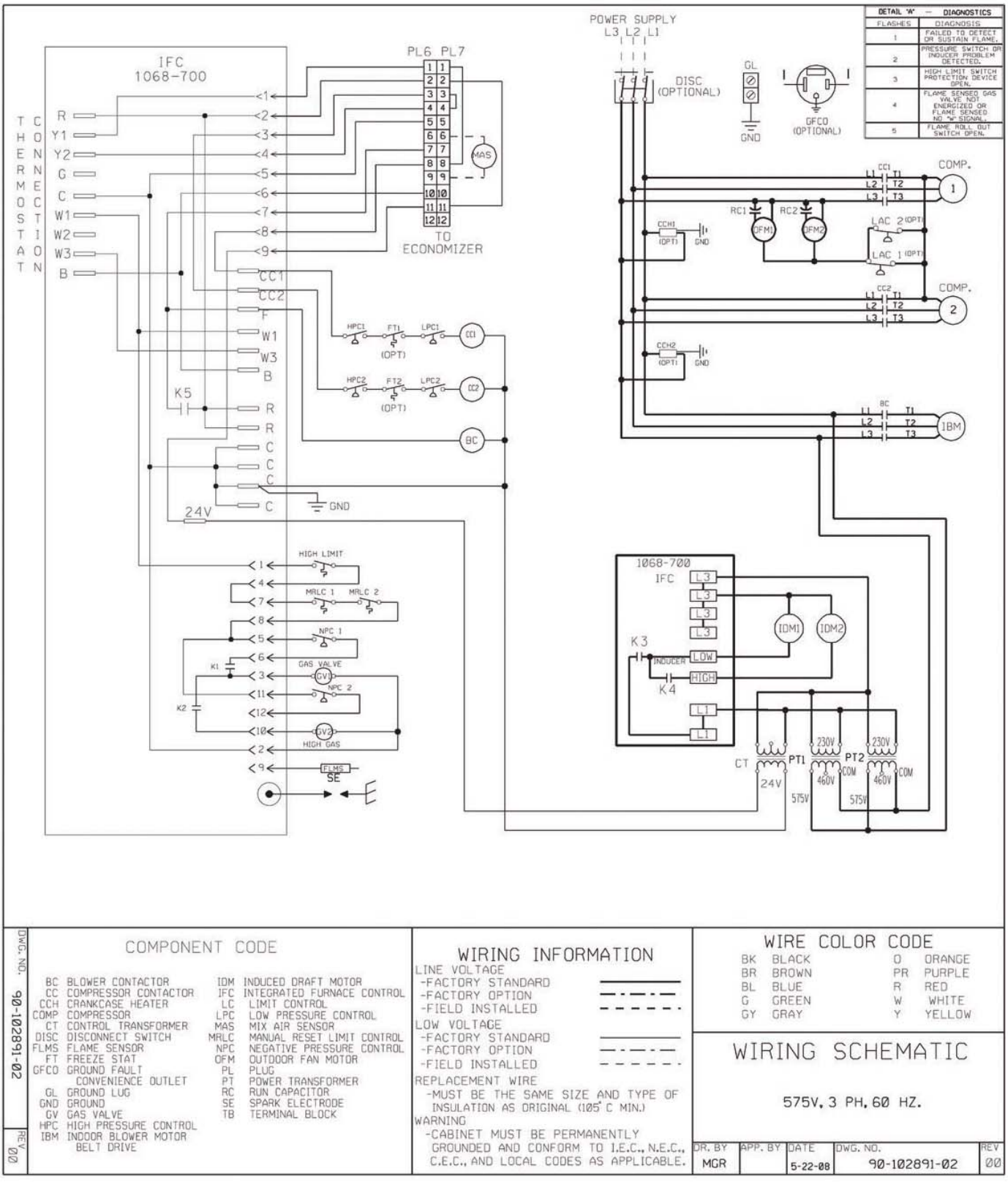


Figure 22: Wiring Diagram: MPS 008B – 012B, 575 V (Gas Heat)



COMPONENT CODE

BC	BLOWER CONTACTOR	IDM	INDUCED DRAFT MOTOR
CC	COMPRESSOR CONTACTOR	IFC	INTEGRATED FURNACE CONTROL
CCH	CRANKCASE HEATER	LC	LIMIT CONTROL
COMP	COMPRESSOR	LPC	LOW PRESSURE CONTROL
CT	CONTROL TRANSFORMER	MAS	MIX AIR SENSOR
DISC	DISCONNECT SWITCH	MRLC	MANUAL RESET LIMIT CONTROL
FLMS	FLAME SENSOR	NPC	NEGATIVE PRESSURE CONTROL
FT	FREEZE STAT	OFM	OUTDOOR FAN MOTOR
GFCO	GROUND FAULT CONVENIENCE OUTLET	PL	PLUG
GL	GROUND LUG	PT	POWER TRANSFORMER
GND	GROUND	RC	RUN CAPACITOR
GV	GAS VALVE	SE	SPARK ELECTRODE
HPC	HIGH PRESSURE CONTROL	TB	TERMINAL BLOCK
IBM	INDOOR BLOWER MOTOR BELT DRIVE		

WIRING INFORMATION

LINE VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED

LOW VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED

REPLACEMENT WIRE
-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)

WARNING
-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.

WIRE COLOR CODE

BK	BLACK	O	ORANGE
BR	BROWN	PR	PURPLE
BL	BLUE	R	RED
G	GREEN	W	WHITE
GY	GRAY	Y	YELLOW

WIRING SCHEMATIC

575V, 3 PH, 60 HZ.

DR. BY	APP. BY	DATE	DWG. NO.	REV
MGR		5-22-08	90-102891-02	00

DWG. NO. 90-102891-02 REV 00

Figure 23: MPS 006F - 012F 208-230/460 V DDC Controls w/ Gas Heat

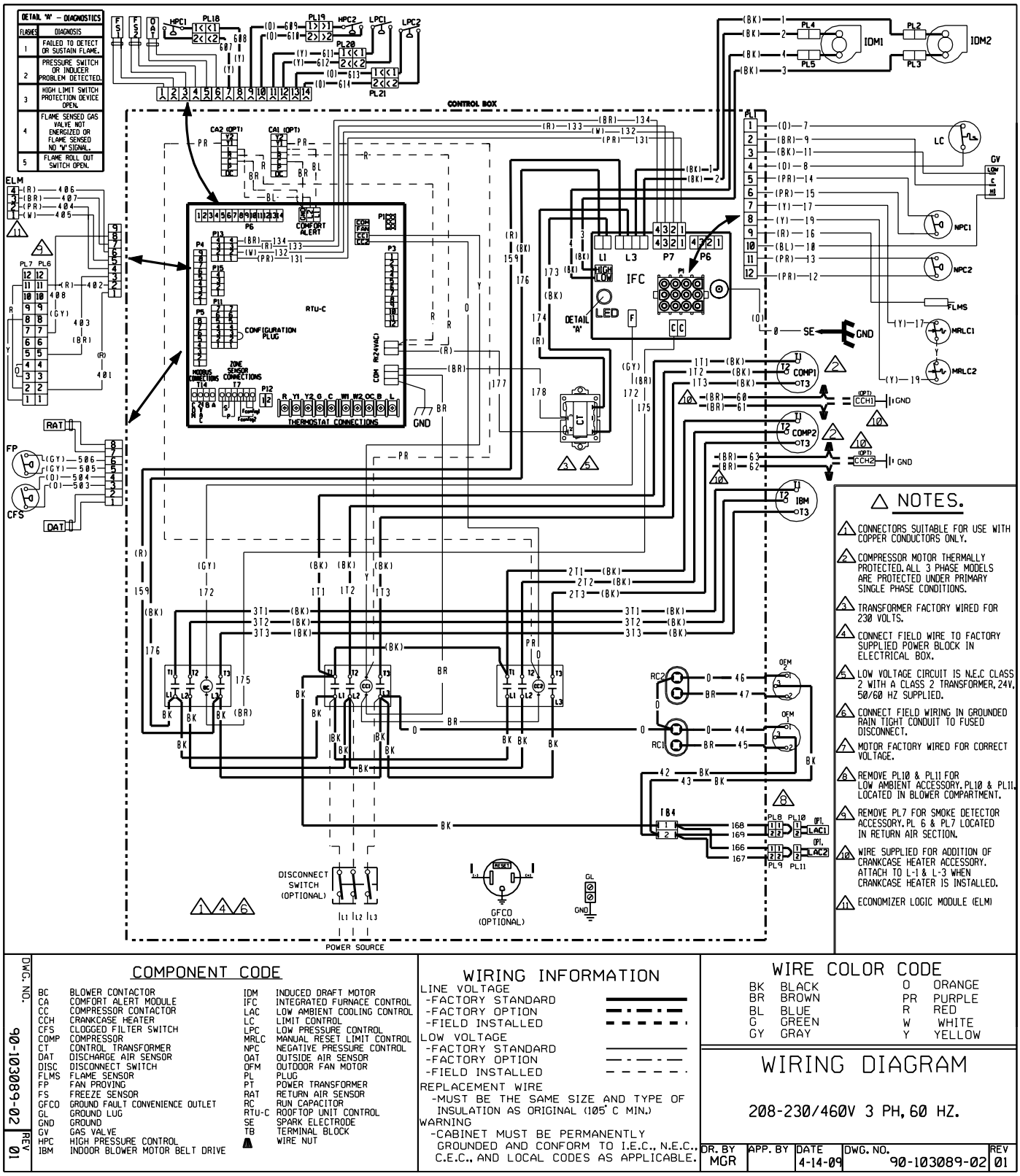

DETAIL "W" - DIAGNOSTICS
FLASHES
DIAGNOSIS
1 FAILED TO DETECT OR SUSTAIN FLAME.
2 PRESSURE SWITCH OR INDUCER PROBLEM DETECTED.
3 HIGH LIMIT SWITCH PROTECTION DEVICE OPEN.
4 FLAME SENSED GAS VALVE NOT ENERGIZED OR FLAME SENSED NO "W" SIGNAL.
5 FLAME ROLL OUT SWITCH OPEN.
CONTROL BOX
POWER SOURCE
DISCONNECT SWITCH (OPTIONAL)
GFCO (OPTIONAL)
RTU-C
IFC
CONFIGURATION PLUG
THERMOSTAT CONNECTIONS
NOTES.
1 CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.
2 COMPRESSOR MOTOR THERMALLY PROTECTED. ALL 3 PHASE MODELS ARE PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
3 TRANSFORMER FACTORY WIRED FOR 230 VOLTS.
4 CONNECT FIELD WIRE TO FACTORY SUPPLIED POWER BLOCK IN ELECTRICAL BOX.
5 LOW VOLTAGE CIRCUIT IS N.E.C CLASS 2 WITH A CLASS 2 TRANSFORMER, 24V, 50/60 HZ SUPPLIED.
6 CONNECT FIELD WIRING IN GROUNDED RAIN TIGHT CONDUIT TO FUSED DISCONNECT.
7 MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.
8 REMOVE PL10 & PL11 FOR LOW AMBIENT ACCESSORY. PL10 & PL11 LOCATED IN BLOWER COMPARTMENT.
9 REMOVE PL7 FOR SMOKE DETECTOR ACCESSORY. PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
10 WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
11 ECONOMIZER LOGIC MODULE (ELM)
COMPONENT CODE
BC BLOWER CONTACTOR
CA COMFORT ALERT MODULE
CC COMPRESSOR CONTACTOR
CCH CRANKCASE HEATER
CFS CLOGGED FILTER SWITCH
COMP COMPRESSOR
CT CONTROL TRANSFORMER
DAT DISCHARGE AIR SENSOR
DISC DISCONNECT SWITCH
FLMS FLAME SENSOR
FP FAN PROVING
FS FREEZE SENSOR
GFCO GROUND FAULT CONVENIENCE OUTLET
GL GROUND LUG
GND GROUND
GV GAS VALVE
HPC HIGH PRESSURE CONTROL
IBM INDOOR BLOWER MOTOR BELT DRIVE
IDM INDUCED DRAFT MOTOR
IFC INTEGRATED FURNACE CONTROL
LAC LOW AMBIENT COOLING CONTROL
LC LIMIT CONTROL
LPC LOW PRESSURE CONTROL
MRLC MANUAL RESET LIMIT CONTROL
NPC NEGATIVE PRESSURE CONTROL
OAT OUTSIDE AIR SENSOR
OFM OUTDOOR FAN MOTOR
PL PLUG
PT POWER TRANSFORMER
RAT RETURN AIR SENSOR
RC RUN CAPACITOR
RTU-C ROOFTOP UNIT CONTROL
SE SPARK ELECTRODE
TB TERMINAL BLOCK
WIRE NUT
WIRING INFORMATION
LINE VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED
LOW VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED
REPLACEMENT WIRE
-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)
WARNING
-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.
WIRE COLOR CODE
BK BLACK
BR BROWN
BL BLUE
G GREEN
GY GRAY
O ORANGE
PR PURPLE
R RED
W WHITE
Y YELLOW
WIRING DIAGRAM
208-230/460V 3 PH, 60 HZ.
DWG. NO. 90-103089-02
REV 01
DR. BY MGR
APP. BY
DATE 4-14-09
DWG. NO. 90-103089-02
REV 01

Figure 24: MPS 006F - 012F 575 V DDC Controls w/ Gas Heat

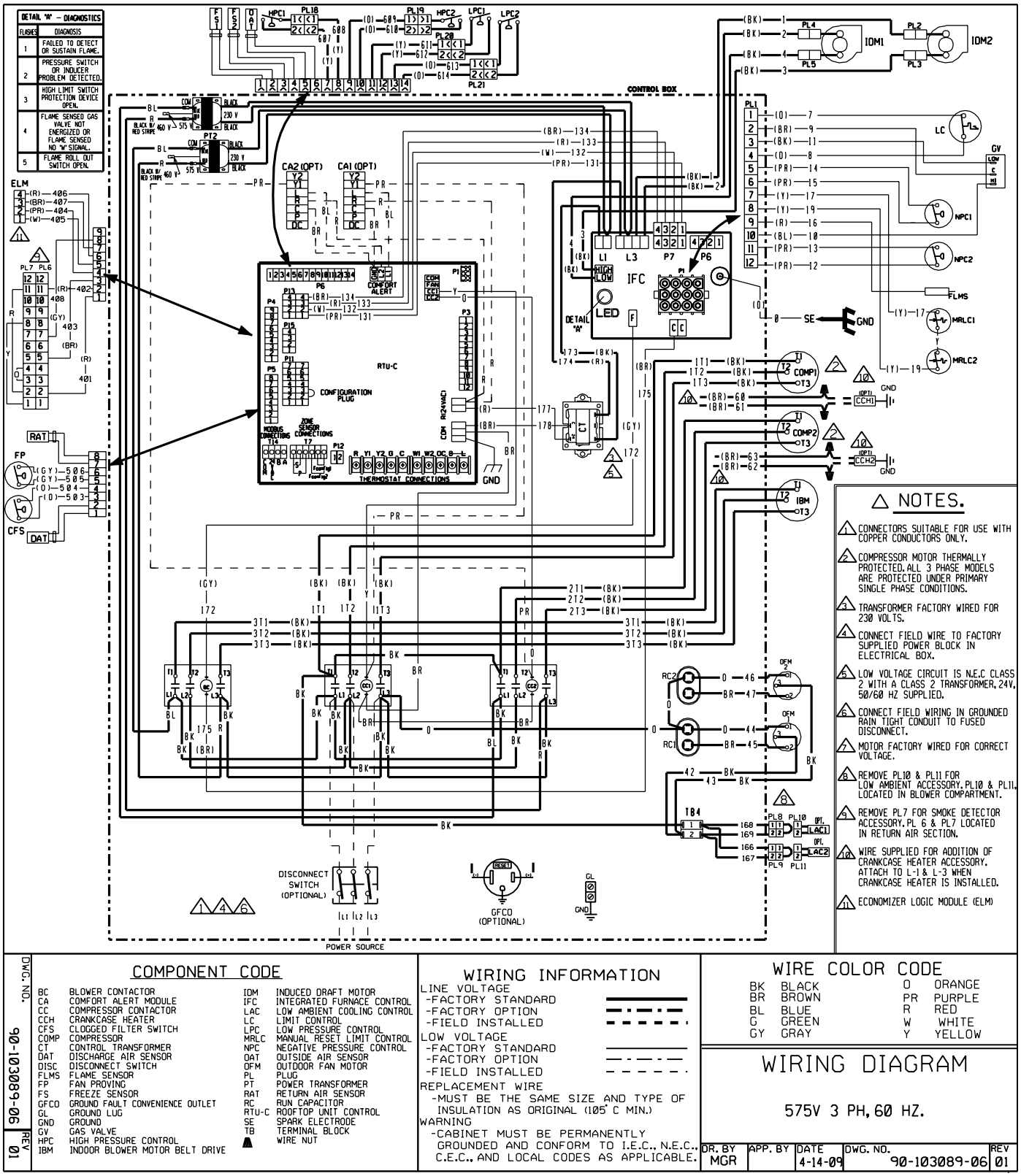
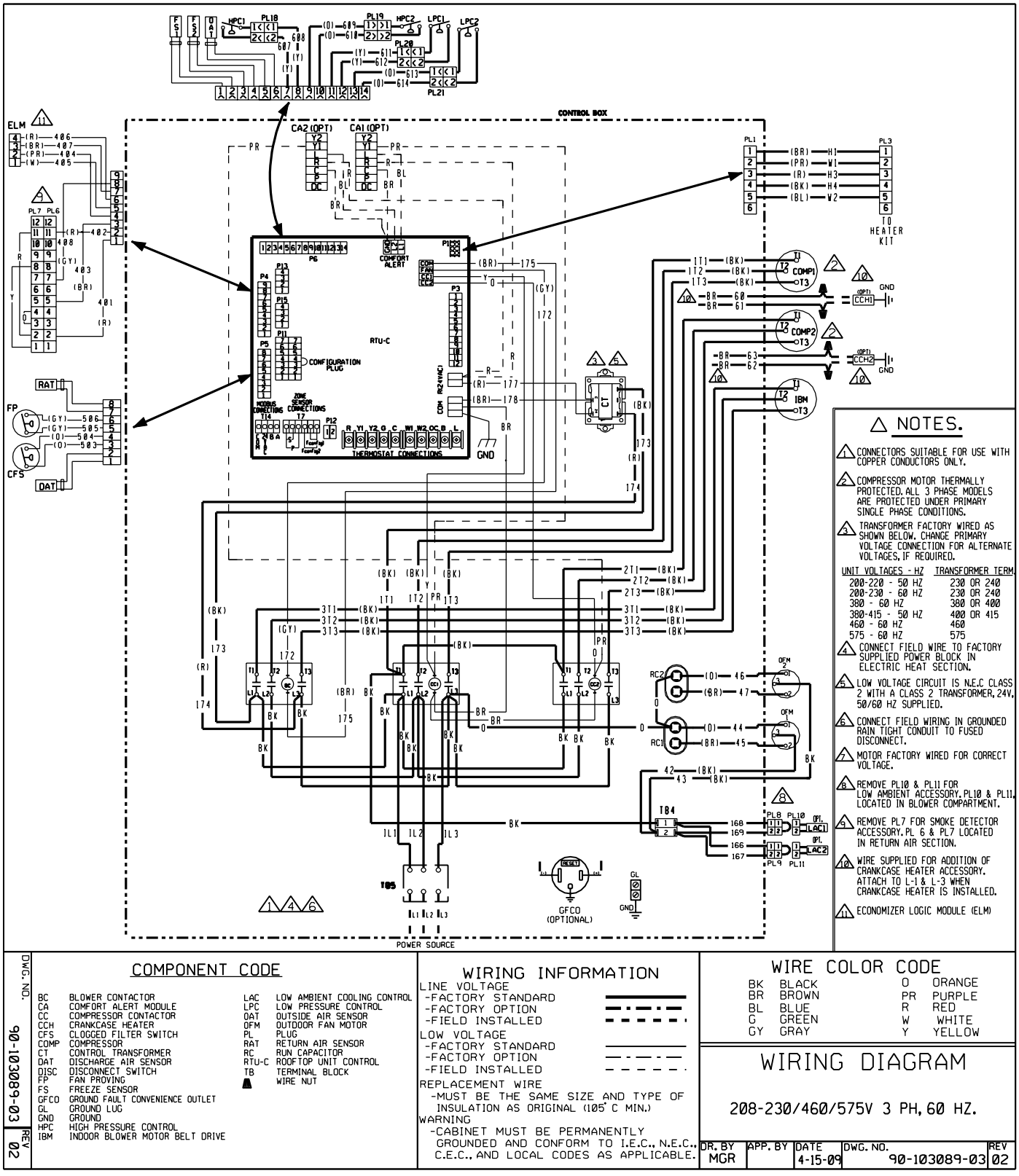

DETAIL "A" – DIAGNOSTICS
FLASHES
DIAGNOSIS
1 FAILED TO DETECT OR SUSTAIN FLAME.
2 PRESSURE SWITCH OR INDUCER PROBLEM DETECTED.
3 HIGH LIMIT SWITCH PROTECTION DEVICE OPEN.
4 FLAME SENSED GAS VALVE NOT ENERGIZED OR FLAME SENSED NO "A" SIGNAL.
5 FLAME ROLL OUT SWITCH OPEN.
CONTROL BOX
POWER SOURCE
DISCONNECT SWITCH (OPTIONAL)
GFCO (OPTIONAL)
RTU-C
IFC
CONFIGURATION PLUG
THERMOSTAT CONNECTIONS
COMFORT ALERT
LED
IDM1
IDM2
COMP1
COMP2
IBM
NOTES.
1 CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.
2 COMPRESSOR MOTOR THERMALLY PROTECTED. ALL 3 PHASE MODELS ARE PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
3 TRANSFORMER FACTORY WIRED FOR 230 VOLTS.
4 CONNECT FIELD WIRE TO FACTORY SUPPLIED POWER BLOCK IN ELECTRICAL BOX.
5 LOW VOLTAGE CIRCUIT IS N.E.C CLASS 2 WITH A CLASS 2 TRANSFORMER, 24V, 50/60 HZ SUPPLIED.
6 CONNECT FIELD WIRING IN GROUNDED RAIN TIGHT CONDUIT TO FUSED DISCONNECT.
7 MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.
8 REMOVE PL10 & PL11 FOR LOW AMBIENT ACCESSORY. PL10 & PL11 LOCATED IN BLOWER COMPARTMENT.
9 REMOVE PL7 FOR SMOKE DETECTOR ACCESSORY. PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
10 WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
11 ECONOMIZER LOGIC MODULE (ELM)
COMPONENT CODE
BC BLOWER CONTACTOR
CA COMFORT ALERT MODULE
CC COMPRESSOR CONTACTOR
CCH CRANKCASE HEATER
CFS CLOGGED FILTER SWITCH
COMP COMPRESSOR
CT CONTROL TRANSFORMER
DAT DISCHARGE AIR SENSOR
DISC DISCONNECT SWITCH
FLMS FLAME SENSOR
FP FAN PROVING
FS FREEZE SENSOR
GFCO GROUND FAULT CONVENIENCE OUTLET
GL GROUND LUG
GND GROUND
GV GAS VALVE
HPC HIGH PRESSURE CONTROL
IBM INDOOR BLOWER MOTOR BELT DRIVE
IDM INDUCED DRAFT MOTOR
IFC INTEGRATED FURNACE CONTROL
LAC LOW AMBIENT COOLING CONTROL
LC LIMIT CONTROL
LPC LOW PRESSURE CONTROL
MRLC MANUAL RESET LIMIT CONTROL
NPC NEGATIVE PRESSURE CONTROL
OAT OUTSIDE AIR SENSOR
OFM OUTDOOR FAN MOTOR
PL PLUG
PT POWER TRANSFORMER
RAT RETURN AIR SENSOR
RC RUN CAPACITOR
RTU-C ROOFTOP UNIT CONTROL
SE SPARK ELECTRODE
TB TERMINAL BLOCK
WIRE NUT
WIRING INFORMATION
LINE VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED
LOW VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED
REPLACEMENT WIRE
-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)
WARNING
-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.
WIRE COLOR CODE
BK BLACK
BR BROWN
BL BLUE
G GREEN
GY GRAY
O ORANGE
PR PURPLE
R RED
W WHITE
Y YELLOW
WIRING DIAGRAM
575V 3 PH, 60 HZ.
DWG. NO. 90-103089-06
REV 01
DR. BY MGR
APP. BY
DATE 4-14-09

Figure 25: MPS 006F - 012F 208-230/460/575 V DDC Controls w/ Cooling Only


CONTROL BOX
POWER SOURCE
RTU-C
THERMOSTAT CONNECTIONS
NOTES.
1. CONNECTORS SUITABLE FOR USE WITH COPPER CONDUCTORS ONLY.
2. COMPRESSOR MOTOR THERMALLY PROTECTED. ALL 3 PHASE MODELS ARE PROTECTED UNDER PRIMARY SINGLE PHASE CONDITIONS.
3. TRANSFORMER FACTORY WIRED AS SHOWN BELOW. CHANGE PRIMARY VOLTAGE CONNECTION FOR ALTERNATE VOLTAGES, IF REQUIRED.
UNIT VOLTAGES - HZ | TRANSFORMER TERM
200-220 - 50 HZ | 230 OR 240
200-230 - 60 HZ | 230 OR 240
380 - 60 HZ | 380 OR 400
380-415 - 50 HZ | 400 OR 415
460 - 60 HZ | 460
575 - 60 HZ | 575
4. CONNECT FIELD WIRE TO FACTORY SUPPLIED POWER BLOCK IN ELECTRIC HEAT SECTION.
5. LOW VOLTAGE CIRCUIT IS N.E.C CLASS 2 WITH A CLASS 2 TRANSFORMER, 24V, 50/60 HZ SUPPLIED.
6. CONNECT FIELD WIRING IN GROUNDED RAIN TIGHT CONDUIT TO FUSED DISCONNECT.
7. MOTOR FACTORY WIRED FOR CORRECT VOLTAGE.
8. REMOVE PL10 & PL11 FOR LOW AMBIENT ACCESSORY. PL10 & PL11, LOCATED IN BLOWER COMPARTMENT.
9. REMOVE PL7 FOR SMOKE DETECTOR ACCESSORY. PL 6 & PL7 LOCATED IN RETURN AIR SECTION.
10. WIRE SUPPLIED FOR ADDITION OF CRANKCASE HEATER ACCESSORY. ATTACH TO L-1 & L-3 WHEN CRANKCASE HEATER IS INSTALLED.
11. ECONOMIZER LOGIC MODULE (ELM)
COMPONENT CODE
BC BLOWER CONTACTOR
CA COMFORT ALERT MODULE
CC COMPRESSOR CONTACTOR
CCH CRANKCASE HEATER
CFS CLOGGED FILTER SWITCH
COMP COMPRESSOR
CT CONTROL TRANSFORMER
DAT DISCHARGE AIR SENSOR
DISC DISCONNECT SWITCH
FP FAN PROVING
FS FREEZE SENSOR
GFCO GROUND FAULT CONVENIENCE OUTLET
GL GROUND LUG
GND GROUND
HPC HIGH PRESSURE CONTROL
IBM INDOOR BLOWER MOTOR BELT DRIVE
LAC LOW AMBIENT COOLING CONTROL
LPC LOW PRESSURE CONTROL
OAT OUTSIDE AIR SENSOR
OFM OUTDOOR FAN MOTOR
PL PLUG
RAT RETURN AIR SENSOR
RC RUN CAPACITOR
RTU-C ROOFTOP UNIT CONTROL
TB TERMINAL BLOCK
WIRE NUT
WIRING INFORMATION
LINE VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED
LOW VOLTAGE
-FACTORY STANDARD
-FACTORY OPTION
-FIELD INSTALLED
REPLACEMENT WIRE
-MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (105° C MIN.)
WARNING
-CABINET MUST BE PERMANENTLY GROUNDED AND CONFORM TO I.E.C., N.E.C., C.E.C., AND LOCAL CODES AS APPLICABLE.
WIRE COLOR CODE
BK BLACK
BR BROWN
BL BLUE
G GREEN
GY GRAY
O ORANGE
PR PURPLE
R RED
W WHITE
Y YELLOW
WIRING DIAGRAM
208-230/460/575V 3 PH, 60 HZ.
DR. BY MGR
APP. BY
DATE 4-15-09
DWG. NO. 90-103089-03
REV 02
DWG. NO. 90-103089-03 REV 02

Unit Capacity and Physical Data

Table 11: MPS 006B – 007B

Model	MPS	
	006B	**007B**
Cooling Performance[1]		
Gross cooling BTU [kW]	76,000 [22.27]	93,000 [27.25]
EER/SEER[2]	11.5/NA	11.2/NA
Nominal airflow/ARI airflow (cfm) [L/s]	2400/2400 [1133/1133]	3000/2775 [1416/1310]
Net cooling BTU [kw]	73,000 [21.39]	90,000 [26.37]
Net sensible BTU [kW]	53,900 [15.79]	63,100 [18.49]
Net latent BTU [kW]	19,100 [5.6]	26,900 [7.88]
Net system power kW	6.31	7.53
Compressor(s)		
Type/number	Scroll/1	Scroll/2
Gas Heating Performance[3]		
AFUE %	80	80
Steady stage efficiency %	81	81
No. stages	2	2
Gas connection size	1/2"	1/2" - 3/4"
Heating input (BtuH)	75,000/150,000	112,500 / 225,000
Heating output (BtuH)	60,750/121,500	60,750 / 182,250
Temperature rise °F	30 - 60	40 - 70
Sound[4]		
Outdoor rating (dB)	88	88
Outdoor Coil		
Fin type	Louvered	Louvered
Tube type	Rifled	Rifled
Tube size OD (in.) [mm]	3/8 [9.5]	0.375 [9.5]
Face area (sq. ft) [sq. m]	13.5 [1.25]	27 [2.51]
Rows (fpi) [fpcm]	1 / 22 [9]	1/22 [9]
Indoor Coil		
Fin type	Louvered	Louvered
Tube type	Rifled	Rifled
Tube size OD (in.) [mm]	0.375 [9.5]	0.375 [9.5]
Face area (sq. ft) [sq. m]	13.5 [1.25]	13.5 [1.25]
Rows (fpi) [fpcm]	2 / 18 [7]	2/18 [7]
Refrigerant control	Capillary tube	
Drain connection (in.) [mm]	1/1 [25.4]	1/1 [25.4]
Condenser Fan		
Type	Propeller	Propeller
No. used/diameter (in.) [mm]	2/24 [609.6]	2/24 [609.6]
Drive type/No. of speeds	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]
Motor hp	2 at 1/3 HP	2 at 1/3 HP
Motor rpm	1075	1075
Indoor Fan		
Type	FC Centrifugal	FC Centrifugal
No. used/diameter (in.) [mm]	1/11x12 [279x305]	1/15x15 [381x381]
No. motors	1	1
Motor hp	1 - 2	2
Motor rpm	1725	1725
Filter		
Fin type	Disposable	Disposable
Furnished	Yes	Yes
No. size (in.) [mm]	(6) 2x18x18 [51x457x457]	(6) 2x18x18 [51x457x457]
Refrigerant		
Charge oz. [g]	190.9 [5412]	107.5/110.7 [3048/3138]
Weight		
Net weight lbs. [kg]	965 [438]	1053 [478]
Shipping weight lbs. [kg]	1002 [455]	1090 [494]

Table 12: MPS 008B – 012B

Model	MPS		
	008B	010B	012B
Cooling Performance[1]			
Gross cooling BTU [kW]	101,000 [29.59]	123,000 [36.04]	156,000 [45.71]
EER/SEER[2]	11.2/NA	11.2/NA	11/NA
Nominal airflow/ARI airflow (cfm) [L/s]	3200/3200 [1510/1510]	4000/3750 [1888/1770]	5000/4400 [2360/2076]
Net cooling BTU [kw]	97,000 [28.42]	118,000 [34.57]	148,000 [43.36]
Net sensible BTU [kW]	74,000 [21.68]	88,800 [26.02]	107,600 [31.53]
Net latent BTU [kW]	23,000 [6.74]	29,200 [8.56]	40,400 [11.84]
Net system power kW	8.59	10.49	13.39
Compressor(s)			
Type/number	Scroll/2	Scroll/2	Scroll/2
Gas Heating Performance[3]			
AFUE %	80	80	80
Steady stage efficiency %	81	81	81
No. stages	2	2	2
Gas connection size	1/2" - 3/4"	1/2" - 3/4"	1/2" - 3/4"
Heating input (BtuH)	112,500/225,000	112,500 / 225,000	150,000 / 252,000
Heating output (BtuH)	91,125/182,250	60,750 / 182,250	121,500 / 204,000
Temperature rise °F	40 - 70	15 - 55	15 - 55
Sound[4]			
Outdoor rating (dB)	88	88	88
Outdoor Coil			
Fin type	Louvered	Louvered	Louvered
Tube type	Rifled	Rifled	MicroChannel
Tube size OD (in.) [mm]	0.375 [9.5]	0.375 [9.5]	1 [25.4]
Face area (sq. ft) [sq. m]	27 [2.51]	27 [2.51]	27 [2.51]
Rows (fpi) [fpcm]	2/18 [7]	2/22 [9]	2 / 20 [8]
Indoor Coil			
Fin type	Louvered	Louvered	Louvered
Tube type	Rifled	Rifled	Rifled
Tube size OD (in.) [mm]	0.375 [9.5]	0.375 [9.5]	0.375 [9.5]
Face area (sq. ft) [sq. m]	13.5 [1.25]	13.5 [1.25]	13.5 [1.25]
Rows (fpi) [fpcm]	2/18 [7]	3/18 [7]	4 / 15 [6]
Refrigerant control	TX valves	TX valves	TX valves
Drain connection (in.) [mm]	1/1 [25.4]	1/1 [25.4]	1/1 [25.4]
Condenser Fan			
Type	Propeller	Propeller	Propeller
No. used/diameter (in.) [mm]	2/24 [609.6]	2/24 [609.6]	2/24 [609.6]
Drive type/No. of speeds	Direct/1	Direct/1	Direct/1
CFM [L/s]	8000 [3775]	8000 [3775]	8000 [3775]
Motor hp	2 at 1/3 HP	2 at 1/3 HP	2 at 1/2 HP
Motor rpm	1075	1075	1075
Indoor Fan			
Type	FC Centrifugal	FC Centrifugal	FC Centrifugal
No. used/diameter (in.) [mm]	15x15 [381x381]	15x15 [381x381]	1/15x15 [381x381]
No. motors	1	1	1
Motor hp	2 - 3	2 - 3	3 - 5
Motor rpm	1725	1725	1725
Filter			
Fin type	Disposable	Disposable	Disposable
Furnished	Yes	Yes	Yes
No. size (in.) [mm]	(6) 2x18x18 [51x457x457]	(6) 2x18x18 [51x457x457]	(6) 2x18x18 [51x457x457]
Refrigerant			
Charge oz. [g]	154.4/166.6 [4377/4723]	172.8/180.8 [4899/5126]	159.2/156 [4513/4423]
Weight			
Net weight lbs. [kg]	1095 [497]	1156 [524]	1230 [558]
Shipping weight lbs. [kg]	1002 [455]	1193 [541]	1132 [513]

Compressor and Condenser Motor

Table 13: Compressor and Condenser Motor Data – 208/230 Volt

Data	Electrical Data (208/230 V)*				
	MPS 006B	**MPS 007B**	**MPS 008B**	**MPS 010B**	**MPS 012B**
Compressor Motor					
No.	1	2			
Phase	3				
RPM	3450				
HP, Compressor 1	5	3-1/4	4	5	6
Amps (RLA), Comp. 1	22.9	13.1	17.9	17.8	25
Amps (LRA), Comp. 1	115	83.1	91	110	149
HP, Compressor 2	N/A	3-1/4	4	5	6
Amps (RLA), Comp. 2	N/A	13.1	17.9	25	25
Amps (LRA), Comp. 2	N/A	83.1	91	110	149
Condenser Motor					
No.	2				
Phase	1				
HP	1/3				
Amps (FLA, each)	1.2/1.2				
Amps (LRA, each)	4.7/4.7				

Note: *Unit operating voltage range is 187 - 253

Table 14: Compressor and Condenser Motor Data – 460 Volt

Data	Electrical Data (460 V)*				
	MPS 006B	**MPS 007B**	**MPS 008B**	**MPS 010B**	**MPS 012B**
Compressor Motor					
No.	1	2			
Phase	3				
RPM	3450				
HP, Compressor 1	5	3-1/4	4	5	6
Amps (RLA), Comp. 1	10.7	6.1	7.9	8.6	11.8
Amps (LRA), Comp. 1	75	41	46	52	75
HP, Compressor 2	N/A	3-1/4	4	5	6
Amps (RLA), Comp. 2	N/A	6.1	7.9	8.6	11.8
Amps (LRA), Comp. 2	N/A	41	46	52	75
Condenser Motor					
No.	2				
Phase	1				
HP	1/3				
Amps (FLA, each)	1,4				
Amps (LRA, each)	2,4				

Note: *Unit operating voltage range is 414 - 506

Table 15: Compressor and Condenser Motor Data – 575 Volt

Data	Electrical Data (575 V)*				
	MPS 006B	MPS 007B	MPS 008B	MPS 010B	MPS 012B
Compressor Motor					
No.	1		2		
Phase	3				
RPM	3450				
HP, Compressor 1	5	3-1/4	4	5	6
Amps (RLA), Comp. 1	8.5	4.4	6.2	6.4	8.6
Amps (LRA), Comp. 1	54	33	37	38.9	54
HP, Compressor 2	N/A	3-1/4	4	5	6
Amps (RLA), Comp. 2	N/A	4.4	6.2	6.4	8.6
Amps (LRA), Comp. 2	N/A	33	37	38.9	54
Condenser Motor					
No.	2				
Phase	1				
HP	1/3				
Amps (FLA, each)	1,0				
Amps (LRA, each)	1,8				

Note: *Unit operating voltage range is 518 - 632

MCA and MCOP

Table 16: Unit MCA and MCOP Data

MPS Model		Voltage					
		208/230		460		575	
		Low*	High	Low*	High	Low*	High
006B	MCA	37.0	37.0	18.0	18.0	14.0	14.0
	MCOP	50.0	50.0	25.0	25.0	20.0	20.0
007B	MCA	42.0	47.0	21.0	24.0	16.0	20.0
	MCOP	60.0	70.0	30.0	35.0	20.0	25.0
008B	MCA	49.0	54.0	23.0	26.0	19.0	24.0
	MCOP	60.0	60.0	25.0	30.0	20.0	30.
010B	MCA	49.0	54.0	25.0	28.0	19.0	24.0
	MCOP	60.0	60.0	30.0	35.0	20.0	30.0
012B	MCA	67.0	71.0	33.0	36.0	26.0	28.0
	MCOP	80.0	90.0	40.0	45.0	35.0	35.0

Note: *Low static option is a direct drive motor for models 003 and 004

Auxiliary Heater Data

Table 17: Auxiliary Heater Kits Characteristics and Application: 208/240V - 3 Phase

Unit Model Number MPS-	Heater Kit Model No. RXJJ-	Heater Kw @ 208/240 V/ 3 Phase	Heater Kit Fla	Unit Min. Ckt. Ampacity	Max. Fuse Or Ckt. Bkr. Size (Ckt. Bkr. Must Be HACR Type For USA)
006B Low and High Static Drives	NONE	—	—	37/37	50/50
	CC10C	7.2/9.6	20.0/23.1	37/37	50/50
	CC15C	10.8/14.4	30.0/34.6	45/51	50/60
	CC20C	14.4/19.2	40.0/46.2	57/65	60/70
	CC30C	21.6/28.8	60.0/69.3	82/94	90/1 00
007B Low Static Drive	NONE	—	—	42/42	60/60
	CC10C	7.2/9.6	20.0/23.1	42/42	60/60
	CC15C	10.8/14.4	30.0/34.6	48/54	60/60
	CC20C	14.4/19.2	40.0/46.2	60/68	60/70
	CC30C	21.6/28.8	60.0/69.3	85/97	90/1 00
	CC40C	28.8/38.4	80.1/92.4	111/126	125/150
007B High Static Drive	NONE	—	—	47/47	70/70
	CC10C	7.2/9.6	20.0/23.1	47/47	70/70
	CC15C	10.8/14.4	30.0/34.6	54/60	70/70
	CC20C	14.4/19.2	40.0/46.2	67/74	70/80
	CC30C	21.6/28.8	60.0/69.3	92/1 03	100/110
	CC40C	28.8/38.4	80.1/92.4	117/132	125/150
008B Low Static Drive	NONE	—	—	49/49	60/60
	CC10C	7.2/9.6	20.0/23.1	49/49	60/60
	CC15C	10.8/14.4	30.0/34.6	49/54	60/60
	CC20C	14.4/19.2	40.0/46.2	60/68	60/70
	CC30C	21.6/28.8	60.0/69.3	85/97	90/100
	CC40C	28.8/38.4	80.1/92.4	111/126	125/150
008B High Static Drive	NONE	—	—	54/54	60/60
	CC10C	7.2/9.6	20.0/23.1	54/54	60/60
	CC15C	10.8/14.4	30.0/34.6	54/60	60/60
	CC20C	14.4/19.2	40.0/46.2	67/74	70/80
	CC30C	21.6/28.8	60.0/69.3	92/103	100/110
	CC40C	28.8/38.4	80.1/92.4	117/132	125/150
010B Low Static Drive	NONE	—	—	49/49	60/60
	CC10C	7.2/9.6	20.0/23.1	49/49	60/60
	CC15C	10.8/14.4	30.0/34.6	49/54	60/60
	CC20C	14.4/19.2	40.0/46.2	60/68	60/70
	CC30C	21.6/28.8	60.0/69.3	85/97	90/100
	CC40C	28.8/38.4	80.1/92.4	111/126	125/150
	CC50C	36.1/48.0	100.1/115.5	136/155	150/175
010B High Static Drive	NONE	—	—	54/54	60/60
	CC10C	7.2/9.6	20.0/23.1	54/54	60/60
	CC15C	10.8/14.4	30.0/34.6	54/60	60/60
	CC20C	14.4/19.2	40.0/46.2	67/74	70/80
	CC30C	21.6/28.8	60.0/69.3	92/103	100/110
	CC40C	28.8/38.4	80.1/92.4	117/132	125/1 50
	CC50C	36.1/48.0	100.1/115.5	142/161	150/175
012B Low Static Drive	NONE	—	—	67/67	80/80
	CC10C	7.2/9.6	20.0/23.1	67/67	80/80
	CC15C	10.8/14.4	30.0/34.6	67/67	80/80
	CC20C	14.4/19.2	40.0/46.2	69/77	80/80
	CC30C	21.6/28.8	60.0/69.3	94/106	100/110
	CC40C	28.8/38.4	80.1/92.4	119/135	125/1 50
	CC50C	36.1/48.0	100.1/115.5	144/164	150/175

Table 17: Auxiliary Heater Kits Characteristics and Application: 208/240V - 3 Phase

Unit Model Number MPS-	Heater Kit Model No. RXJJ-	Heater Kw @ 208/240 V/ 3 Phase	Heater Kit Fla	Unit Min. Ckt. Ampacity	Max. Fuse Or Ckt. Bkr. Size (Ckt. Bkr. Must Be HACR Type For USA)
012B High Static Drive	NONE	—	—	71/71	90/90
	CC10C	7.2/9.6	20.0/23.1	71/71	90/90
	CC15C	10.8/14.4	30.0/34.6	71/71	90/90
	CC20C	14.4/19.2	40.0/46.2	74/82	90/90
	CC30C	21.6/28.8	60.0/69.3	99/111	100/125
	CC40C	28.8/38.4	80.1/92.4	124/139	125/150
	CC50C	36.1/48.0	100.1/115.5	149/168	150/175

Table 18: Auxiliary Heater Kits Characteristics and Application: 480V - 3 Phase

Unit Model Number MPS-	Heater Kit Model No. RXJJ-	Heater Kw @ 480V	Heater Kit Fla	Unit Min. Ckt. Ampacity	Max. Fuse Or Ckt. Bkr. Size (Ckt. Bkr. Must Be HACR Type For USA)
006B Low and High Static Drive	NONE	—	—	18	25
	CC10D	9.6	11.5	18	25
	CC15D	14.4	17.3	26	30
	CC20D	19.2	23.1	33	35
	CC30D	28.8	34.6	47	50
007B Low Static Drive	NONE	—	—	21	30
	CC10D	9.6	11.5	21	30
	CC15D	14.4	17.3	27	30
	CC20D	19.2	23.1	34	35
	CC30D	28.8	34.6	49	50
	CC40D	38.4	46.2	63	70
007B High Static Drive	NONE	—	—	24	35
	CC10D	9.6	11.5	24	35
	CC15D	14.4	17.3	34	35
	CC20D	19.2	23.1	45	45
	CC30D	28.8	34.6	57	60
	CC40D	38.4	46.2	68	70
008B Low Static Drive	NONE	—	—	23	25
	CC10D	9.6	11.5	23	25
	CC15D	14.4	17.3	27	30
	CC20D	19.2	23.1	34	35
	CC30D	28.8	34.6	49	50
	CC40D	38.4	46.2	63	70
008B High Static Drive	NONE	—	—	26	30
	CC10C	9.6	11.5	26	30
	CC15D	14.4	17.3	31	35
	CC20D	19.2	23.1	38	40
	CC30D	28.8	34.6	52	60
	CC40D	38.4	46.2	67	70
010B Low Static Drive	NONE	—	—	25	30
	CC10D	9.6	11.5	25	30
	CC15D	14.4	17.3	27	30
	CC20D	19.2	23.1	34	35
	CC30D	28.8	34.6	49	50
	CC40D	38.4	46.2	63	70
	CC50D	48.0	57.7	78	80
010B High Static Drive	NONE	—	—	28	35
	CC10D	9.6	11.5	28	35
	CC15D	14.4	17.3	31	35
	CC20D	19.2	23.1	38	40
	CC30D	28.8	34.6	52	60
	CC40D	38.4	46.2	67	70
	CC50D	48.0	57.7	81	90

Table 18: Auxiliary Heater Kits Characteristics and Application: 480V - 3 Phase

Unit Model Number MPS-	Heater Kit Model No. RXJJ-	Heater Kw @ 480V	Heater Kit Fla	Unit Min. Ckt. Ampacity	Max. Fuse Or Ckt. Bkr. Size (Ckt. Bkr. Must Be HACR Type For USA)
012B Low Static Drive	NONE	—	—	33	40
	CC10D	9.6	11.5	33	40
	CC15D	14.4	17.3	33	40
	CC20D	19.2	23.1	38	40
	CC30D	28.8	34.6	52	60
	CC40D	38.4	46.2	67	70
	CC50D	48.0	57.7	81	90
012B High Static Drive	NONE	—	—	36	45
	CC10D	9.6	11.5	36	45
	CC15D	14.4	17.3	36	45
	CC20D	19.2	23.1	42	45
	CC30D	28.8	34.6	56	60
	CC40D	38.4	46.2	71	80
	CC50D	48.0	57.7	85	90

Table 19: Auxiliary Heater Kits Characteristics and Application: 600V - 3 Phase

Unit Model Number MPS-	Heater Kit Model No. RXJJ-	Heater Kw @ 600V	Heater Kit Fla	Unit Min. Ckt. Ampacity	Max. Fuse Or Ckt. Bkr. Size (Ckt. Bkr. Must Be HACR Type For USA)
006B Low and High Static Drive	NONE	—	—	14	20
	CC10Y	9.6	9.2	14	20
	CC15Y	14.4	13.9	20	20
	CC20Y	19.2	18.5	26	30
	CC30Y	28.8	27.7	37	40
007B Low Static Drive	NONE	—	—	16	20
	CC10Y	9.6	9.2	17	20
	CC15Y	14.4	13.9	23	25
	CC20Y	19.2	18.5	29	30
	CC30Y	28.8	27.7	40	40
	CC40Y	38.4	37.0	52	60
007B High Static Drive	NONE	—	—	20	25
	CC1 0Y	9.6	9.2	22	25
	CC15Y	14.4	13.9	28	30
	CC20Y	19.2	18.5	34	35
	CC30Y	28.8	27.7	45	45
	CC40Y	38.4	37.0	57	60
008B Low Static Drive	NONE	—	—	19	20
	CC10Y	9.6	9.2	19	20
	CC15Y	14.4	13.9	23	25
	CC20Y	19.2	18.5	29	30
	CC30Y	28.8	27.7	40	40
	CC40Y	38.4	37.0	52	60
008B High Static Drive	NONE	—	—	24	30
	CC1 0Y	9.6	9.2	24	25
	CC15Y	14.4	13.9	28	30
	CC20Y	19.2	18.5	34	35
	CC30Y	28.8	27.7	45	45
	CC40Y	38.4	37.0	57	60
010B Low Static Drive	NONE	—	—	19	20
	CC10Y	9.6	9.2	19	20
	CC15Y	14.4	13.9	23	25
	CC20Y	19.2	18.5	29	30
	CC30Y	28.8	27.7	40	40
	CC40Y	38.4	37.0	52	60
	CC50Y	48.0	46.2	63	70

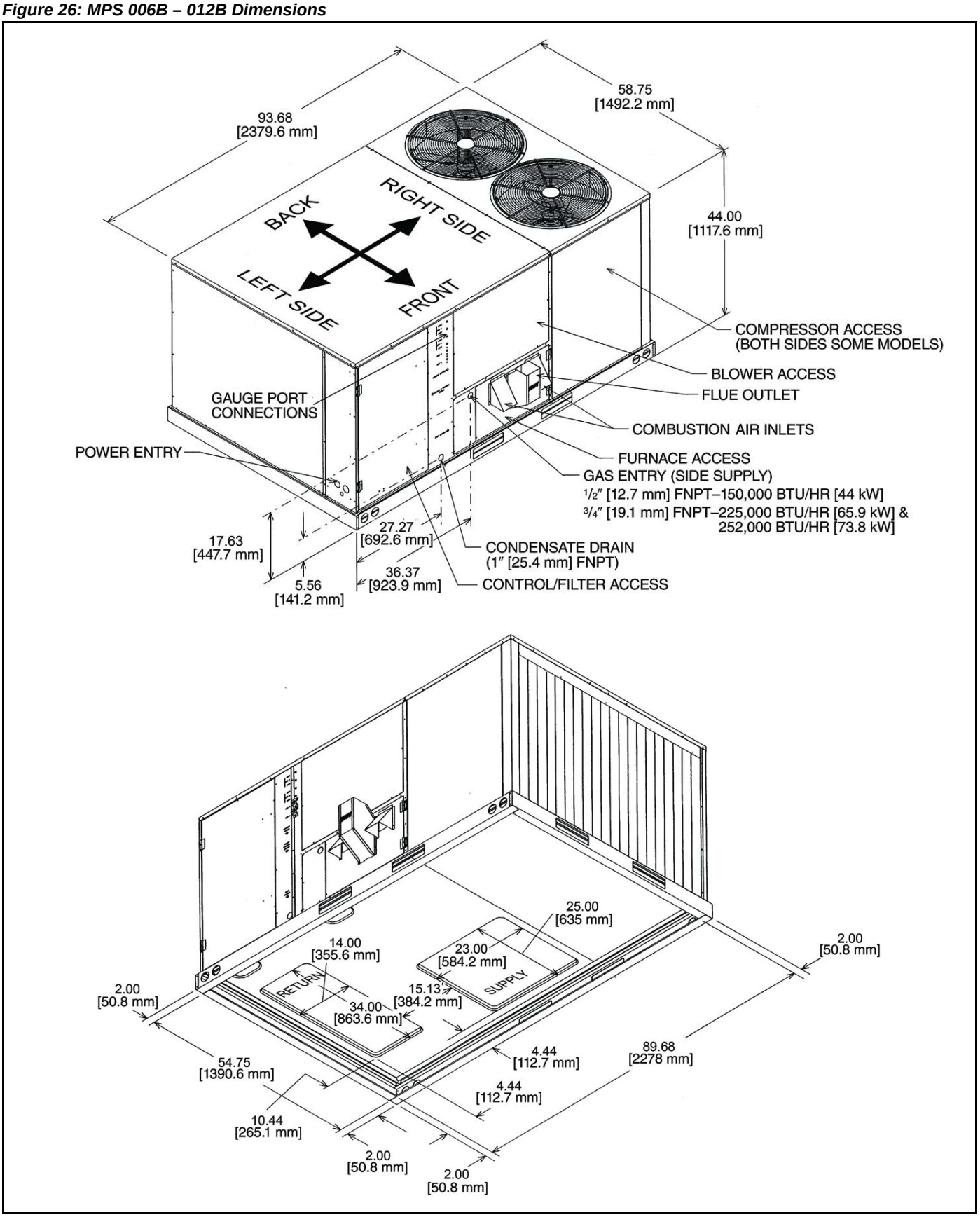
Table 19: Auxiliary Heater Kits Characteristics and Application: 600V - 3 Phase

Unit Model Number MPS-	Heater Kit Model No. RXJJ-	Heater Kw @ 600V	Heater Kit Fla	Unit Min. Ckt. Ampacity	Max. Fuse Or Ckt. Bkr. Size (Ckt. Bkr. Must Be HACR Type For USA)
010B High Static Drive	NONE	—	—	24	30
	CC1 0Y	9.6	9.2	24	30
	CC15Y	14.4	13.9	28	30
	CC20Y	19.2	18.5	34	35
	CC30Y	28.8	27.7	45	45
	CC40Y	38.4	37.0	57	60
	CC50Y	48.0	46.2	68	70
012B Low Static Drive	NONE	—	—	28	35
	CC1 0Y	9.6	9.2	28	35
	CC15Y	14.4	13.9	28	35
	CC20Y	19.2	18.5	34	35
	CC30Y	28.8	27.7	45	45
	CC40Y	38.4	37.0	57	60
	CC50Y	48.0	46.2	68	70
012B High Static Drive	NONE	—	—	28	35
	CC1 0Y	9.6	9.2	28	35
	CC15Y	14.4	13.9	28	35
	CC20Y	19.2	18.5	34	35
	CC30Y	28.8	27.7	45	45
	CC40Y	38.4	37.0	57	60
	CC50Y	48.0	46.2	68	70

Dimensional Data

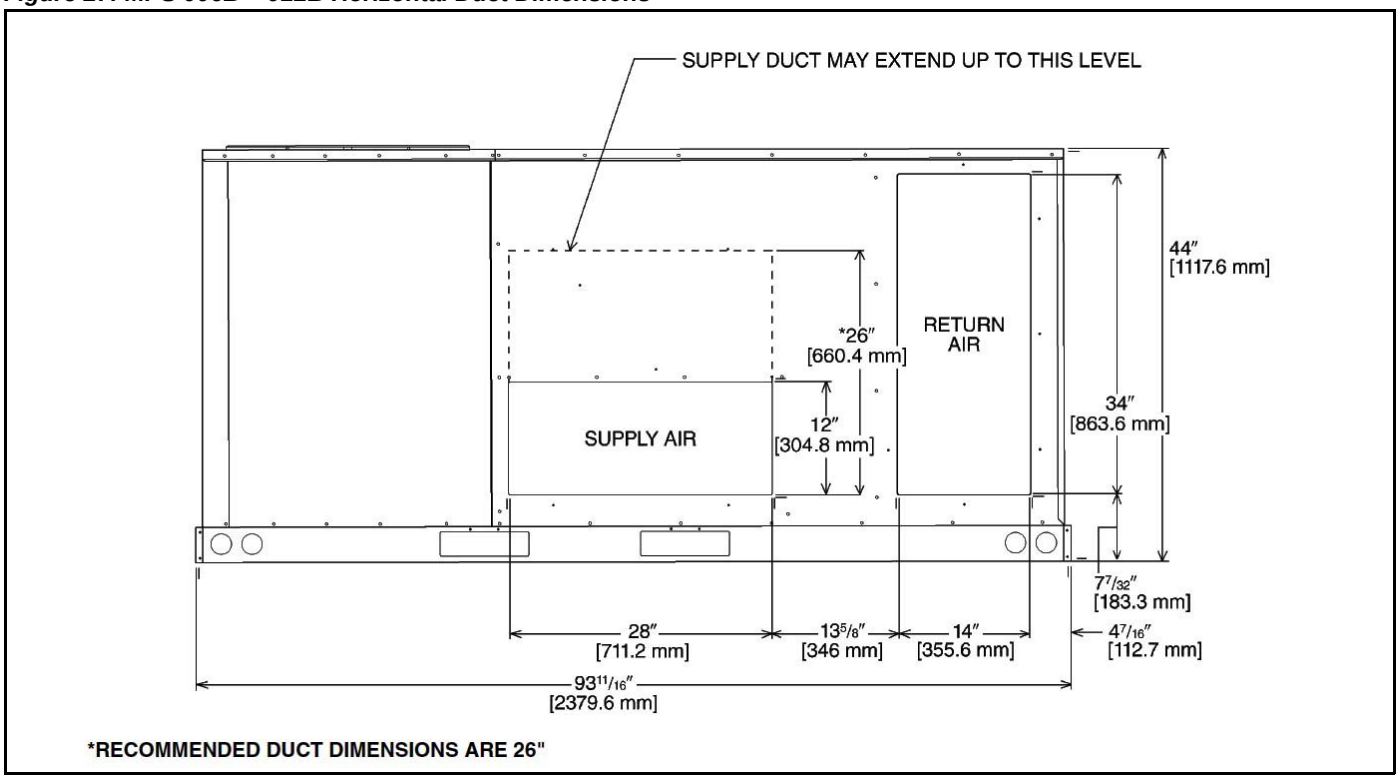
Unit Dimensions

Figure 26: MPS 006B – 012B Dimensions



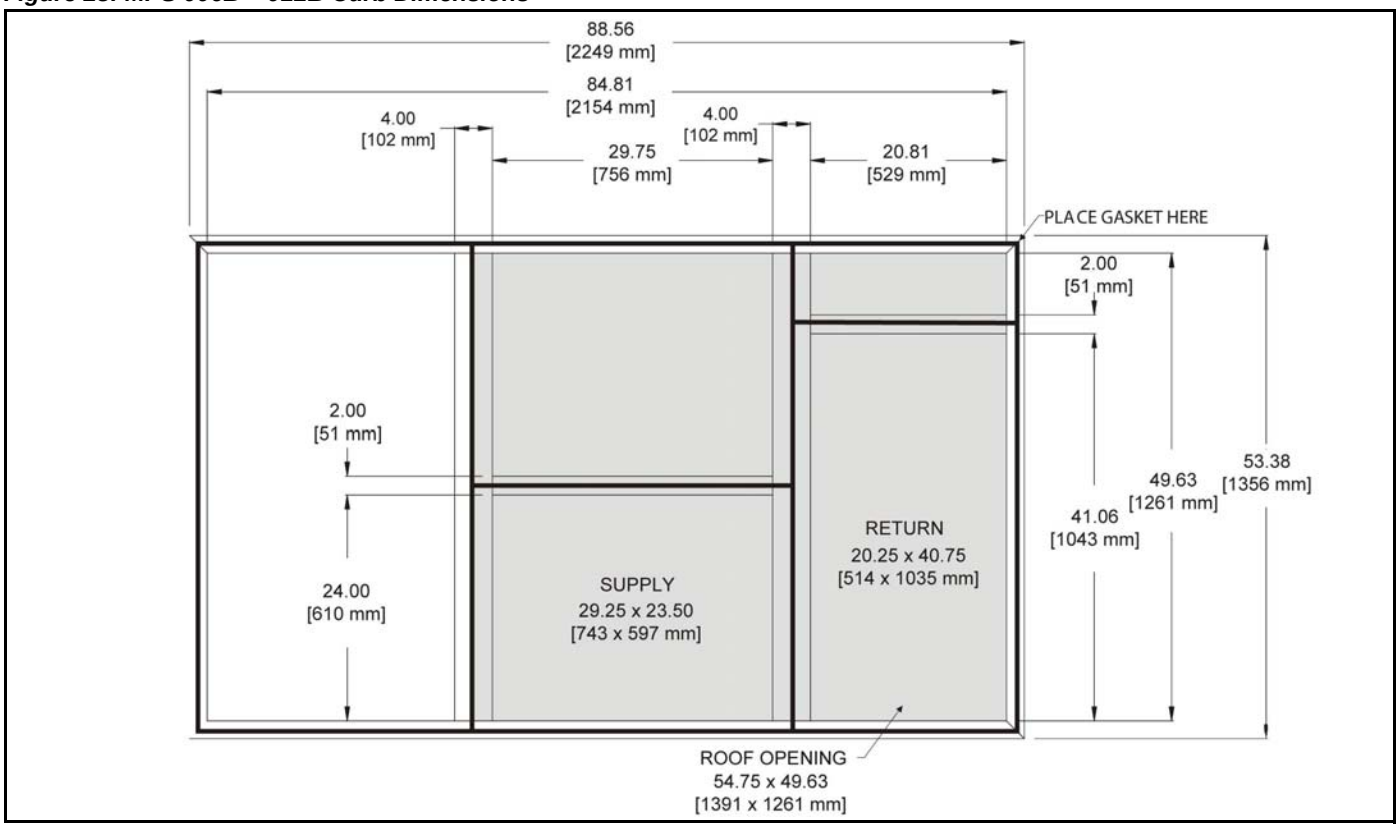
Duct Dimensions

Figure 27: MPS 006B – 012B Horizontal Duct Dimensions



Curb Dimensions

Figure 28: MPS 006B – 012B Curb Dimensions



Airflow Performance

Figure 29: Airflow Performance—MPS 006B

Air Flow CFM [L/s]	Model MPS 006																													
	External Static Pressure—Inches of Water [kPa]																													
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
1800 [849]	—	—	—	—	—	—	—	—	835	631	880	686	924	740	965	794	1005	847	1043	898	1079	949	1113	999	1146	1048	1177	1096	1206	1144
1900 [897]	—	—	—	—	—	—	808	622	854	681	899	739	941	795	982	851	1021	906	1058	960	1093	1013	1127	1065	1159	1117	1189	1167	1217	1217
2000 [944]	—	—	—	—	—	—	828	673	874	734	918	794	959	853	999	911	1037	968	1074	1025	1108	1080	1141	1135	1172	1189	1201	1242	1228	1293
2100 [991]	—	—	—	—	803	663	850	727	894	790	937	853	978	914	1017	974	1055	1034	1090	1093	1124	1151	1156	1208	1186	1264	1214	1319	1241	1373
2200 [1038]	—	—	—	—	826	718	871	784	915	850	957	914	997	978	1036	1041	1072	1103	1107	1164	1140	1224	1171	1283	1201	1342	1228	1399	1254	1456
2300 [1085]	—	—	802	706	849	775	894	844	937	912	978	979	1017	1045	1055	1110	1091	1174	1125	1238	1157	1300	1187	1362	1216	1423	1242	1482	1267	1541
2400 [1133]	—	—	826	764	872	836	916	907	959	977	999	1047	1038	1115	1075	1183	1110	1249	1143	1315	1174	1380	1204	1444	1231	1507	1257	1569	1282	1630
2500 [1180]	805	751	852	826	897	900	940	973	981	1046	1021	1118	1059	1188	1095	1258	1129	1327	1162	1395	1192	1462	1221	1529	1248	1594	1273	1658	—	—
2600 [1227]	831	813	877	890	922	967	964	1043	1005	1118	1044	1191	1081	1265	1116	1337	1149	1408	1181	1478	1211	1548	1239	1616	1265	1684	—	—	—	—
2700 [1274]	858	878	904	958	947	1037	989	1115	1029	1192	1067	1268	1103	1344	1137	1418	1170	1492	1201	1565	1230	1637	1257	1708	1282	1778	—	—	—	—
2800 [1321]	886	947	931	1029	973	1110	1014	1190	1053	1270	1091	1349	1126	1426	1160	1503	1191	1579	1221	1654	1250	1728	1276	1802	—	—	—	—	—	—

NOTE: L-Drive left of bold line, M-Drive right of bold line.

Drive Package	L						M					
Motor H.P. [W]	1.5 [1118.6]						1.5 [1118.6]					
Blower Sheave	AK66						AK66					
Motor Sheave	1VP-44						1VP-50					
Turns Open	0	1	**2**	3	4	5	0	1	2	3	**4**	5
RPM	1119	1072	**1019**	967	915	859	1267	1215	1163	1113	**1064**	1015

NOTES: 1. Factory sheave settings are shown in bold type.
2. Do not set motor sheave below minimum turns open shown.
3. Re-adjustment of sheave required to achieve rated airflow at ARI minimum E.S.P.
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance to duct resistance to determine total E.S.P.

AIRFLOW CORRECTION FACTORS 6 TON [21.1 kW]

ACTUAL—CFM [L/s]	1800 [849]	2000 [944]	2200 [1038]	2400 [1133]	2600 [1227]	2800 [1321]
TOTAL MBH	0.97	0.98	0.99	1.00	1.01	1.02
SENSIBLE MBH	0.91	0.94	0.97	1.00	1.02	1.05
POWER kW	0.99	0.99	0.99	1.00	1.00	1.01

NOTES: 1. Multiply correction factor times gross performance data.
2. Resulting sensible capacity cannot exceed total capacity.

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC 6 TON [21.1 kW]

Component	Standard Indoor Airflow—CFM [L/s]					
	1800 [849]	2000 [944]	2200 [1038]	2400 [1133]	2600 [1227]	2800 [1321]
	Resistance—Inches Water [kPa]					
Wet Coil	0.031 [0.008]	0.036 [0.009]	0.041 [0.01]	0.047 [0.012]	0.051 [0.013]	0.055 [0.014]
Economizer 100% R.A. Damper Open	0.02 [0.005]	0.03 [0.007]	0.04 [0.01]	0.05 [0.012]	0.06 [0.015]	0.07 [0.017]
Horizontal Economizer 100% R.A. Damper Open	0.02 [0.005]	0.02 [0.005]	0.03 [0.007]	0.03 [0.007]	0.04 [0.01]	0.04 [0.01]
Horizontal Economizer 100% O.A. Damper Open	0.07 [0.017]	0.07 [0.017]	0.07 [0.017]	0.08 [0.02]	0.08 [0.02]	0.08 [0.02]

NOTE: Add component resistance to duct resistance to determine total external static pressure.
DNA = Data not Available.

Figure 30: Airflow Performance—MPS 007B

Air Flow CFM [L/s]	Capacity Model MPS 007 — External Static Pressure—Inches of Water [kPa]																																					
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
2400 [1133]	—	—	—	—	540	580	582	664	612	729	645	812	711	890	740	952	770	1014	799	1076	828	1138	857	1200	887	1261	929	1538	958	1623	987	1709	1017	1794	1046	1879	1075	1965	1105	2050
2500 [1180]	—	—	—	—	552	633	593	717	624	791	656	878	720	950	749	1012	778	1074	808	1136	837	1198	866	1260	895	1322	936	1602	965	1687	995	1773	1024	1858	1053	1944	1083	2029	1112	2114
2600 [1227]	—	—	—	—	564	687	603	769	635	853	667	945	729	1010	758	1072	787	1134	816	1196	846	1258	875	1320	914	1581	943	1666	972	1751	1002	1837	1031	1922	1061	2008	1090	2093	1119	2178
2700 [1274]	—	—	539	670	577	744	614	828	648	923	680	1017	737	1070	766	1132	796	1194	825	1256	854	1318	883	1380	921	1645	950	1730	980	1816	1009	1901	1038	1986	1068	2072	1097	2157	1127	2243
2800 [1321]	—	—	554	733	590	801	625	887	660	993	708	1069	746	1131	775	1192	804	1254	834	1316	863	1378	892	1440	928	1709	958	1794	987	1880	1016	1965	1046	2050	1075	2136	1104	2221	1134	2307
2900 [1369]	—	—	569	801	604	866	638	956	673	1069	725	1129	755	1191	784	1253	813	1315	842	1376	872	1438	906	1688	936	1773	965	1858	994	1944	1024	2029	1053	2115	1082	2200	1112	2285	1141	2371
3000 [1416]	546	741	854	869	617	931	650	1024	685	1144	734	1189	763	1251	792	1313	822	1375	851	1437	880	1498	913	1752	943	1837	972	1923	1002	2008	1031	2093	1060	2179	1090	2264	1119	2350	1148	2435
3100 [1463]	560	804	598	940	632	1010	664	1107	713	1187	743	1249	772	1311	801	1373	830	1435	860	1497	889	1559	921	1816	950	1901	979	1987	1009	2072	1038	2157	1068	2243	1097	2328	1126	2414	1156	2499
3200 [1510]	576	876	612	1011	646	1089	678	1189	722	1247	751	1309	781	1371	810	1433	839	1495	868	1557	898	1619	928	1880	957	1965	987	2051	1016	2136	1045	2222	1075	2307	1104	2392	1134	2478	1163	2563
3300 [1557]	592	954	628	1096	660	1168	692	1274	731	1307	760	1369	789	1431	818	1493	848	1555	877	1617	906	1859	935	1944	965	2029	994	2115	1023	2200	1053	2286	1082	2371	1111	2456	1141	2542	1170	2627
3400 [1605]	607	1030	643	1180	673	1247	710	1306	739	1368	769	1430	798	1491	827	1553	856	1615	886	1677	913	1923	943	2008	972	2094	1001	2179	1031	2264	1060	2350	1089	2435	1119	2521	1148	2606	1178	2691
3500 [1652]	622	1112	658	1271	689	1344	719	1366	748	1428	777	1490	807	1552	836	1613	865	1675	894	1737	920	1987	950	2072	979	2158	1009	2243	1038	2328	1067	2414	1097	2499	1126	2585	1155	2670	1185	2756
3600 [1699]	638	1202	672	1361	704	1440	728	1426	757	1488	786	1550	815	1612	844	1674	874	1735	903	1797	928	2051	957	2136	986	2222	1016	2307	1045	2393	1075	2478	1104	2563	1133	2649	1163	2734	1192	2820

NOTE: L-Drive left of 1st bold line, M-Drive in middle of bold lines, N-Drive right of 2nd bold line.

Drive Package	M						N					
Motor H.P. [W]	2.0 [1491.4]						3.0 [2237.1]					
Blower Sheave	BK90						BK65					
Motor Sheave	1VP-44						1VP-44					
Turns Open	1	2	**3**	4	5	6	1	2	3	4	5	**6**
RPM	869	838	**806**	774	742	710	1157	1106	1056	1005	954	**904**

NOTES: 1. Factory sheave settings are shown in bold print.
2. Re-adjustment of sheave required to achieve rated airflow at ARI minimum E.S.P.
3. Do not operate above blower RPM shown as motor overloading will occur.
4. Do not set motor sheave below one turn open.

AIRFLOW CORRECTION FACTORS 7.5 TON [26.4 kW]

ACTUAL—CFM [L/s]	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1605]	3600 [1699]	3800 [1793]
TOTAL MBH	0.97	0.98	0.99	1.00	1.01	1.02	1.03
SENSIBLE MBH	0.91	0.94	0.97	1.00	1.02	1.05	1.08
POWER kW	0.99	0.99	0.99	1.00	1.00	1.01	1.02

NOTES: 1. Multiply correction factor times gross performance data.
2. Resulting sensible capacity cannot exceed total capacity.

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC 7.5 TON [26.4 kW]

Component	Standard Indoor Airflow—CFM [L/s]						
	2400 [1133]	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1604]	3600 [1699]
	Resistance—Inches Water [kPa]						
Wet Coil	0.047 [0.012]	0.051 [0.013]	0.055 [0.014]	0.060 [0.015]	0.065 [0.016]	0.071 [0.018]	0.076 [0.019]
Economizer 100% R.A. Damper Open	0.05 [0.012]	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.022]	0.10 [0.025]	0.11 [0.027]
Horizontal Economizer 100% R.A. Damper Open	0.03 [0.007]	0.04 [0.009]	0.04 [0.010]	0.05 [0.011]	0.05 [0.012]	0.06 [0.014]	0.06 [0.015]
Horizontal Economizer 100% O.A. Damper Open	0.08 [0.020]	0.08 [0.020]	0.08 [0.020]	0.10 [0.024]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]

NOTE: Add component resistance to duct resistance to determine total external static pressure.
DNA = Data not Available.

Figure 31: Airflow Performance—MPS 008B

Air Flow CFM [L/s]	Capacity Model MPS 008																																			
	External Static Pressure—Inches of Water [kPa]																																			
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
2700 [1274]	—	—	—	—	—	—	—	—	—	—	708	1009	737	1070	766	1132	796	1194	825	1256	854	1318	883	1380	921	1645	950	1730	980	1816	1009	1901	1038	1966	1068	2072	1097	2157	1127	2243
2800 [1321]	—	—	—	—	—	—	—	—	—	—	717	1069	748	1131	775	1192	804	1254	834	1316	863	1378	892	1440	928	1709	958	1794	987	1880	1016	1965	1046	2050	1075	2136	1104	2221	1134	2307
2900 [1369]	—	—	—	—	—	—	—	—	—	—	725	1129	755	1191	784	1253	813	1315	842	1376	872	1438	906	1688	936	1773	965	1858	994	1944	1024	2029	1053	2115	1082	2200	1112	2285	1141	2371
3000 [1416]	—	—	—	—	—	—	—	—	705	1127	734	1189	763	1251	792	1313	822	1375	851	1437	880	1498	913	1752	943	1837	972	1923	1002	2008	1031	2093	1060	2179	1090	2264	1119	2350	1148	2435
3100 [1463]	—	—	—	—	—	—	—	—	713	1187	743	1249	772	1311	801	1373	830	1435	860	1497	889	1559	921	1816	950	1961	979	987	1009	2072	1038	2157	1068	2243	1097	2328	1126	2414	—	—
3200 [1510]	—	—	—	—	—	—	693	1185	722	1247	761	1309	781	1371	810	1433	839	1495	868	1557	898	1619	928	1880	937	1965	987	2051	1018	2136	1045	2222	1075	2307	1104	2392	1134	2478	—	—
3300 [1557]	—	—	—	—	—	—	701	1246	731	1307	760	1369	789	1431	818	1493	848	1555	877	1617	906	1856	935	1944	968	2029	994	2115	1023	2200	1053	2286	1082	2371	1111	2456	1141	2542	—	—
3400 [1605]	—	—	—	—	681	1244	710	1306	739	1368	769	1430	798	1491	827	1553	856	1615	886	1677	913	1923	943	2008	972	2094	1001	2179	1031	2264	1060	2350	1089	2435	1119	2521	1148	2606	—	—
3500 [1652]	—	—	673	1270	690	1304	719	1366	748	1428	777	1490	807	1552	836	1613	865	1675	894	1737	920	1987	950	2072	979	2158	1009	2243	1038	2328	1067	2414	1097	2499	1126	2585	—	—	—	—
3600 [1699]	—	—	686	1352	698	1364	728	1426	757	1488	786	1550	815	1612	844	1674	874	1735	903	1797	928	2051	957	2136	986	2222	1016	2307	1045	2393	1071	2478	1104	2563	1133	2649	—	—	—	—
3700 [1746]	672	1361	700	1435	727	1510	755	1584	782	1659	810	1733	837	1808	865	1882	933	1896	953	1956	973	2070	993	2183	1002	2297	1030	2410	1054	2524	1075	2637	1111	2751	1140	2864	—	—	—	—
3800 [1793]	686	1443	713	1518	741	1592	768	1667	796	1741	823	1816	851	1890	878	1965	940	2003	960	2075	981	2189	1001	2302	1016	2416	1043	2529	1062	2643	1082	2756	1119	2870	1147	2983	—	—	—	—
3900 [1841]	699	1526	727	1601	754	1675	782	1750	809	1824	837	1899	864	1973	927	2015	948	2080	968	2194	988	2307	1008	2421	1029	2534	1057	2648	1069	2761	1090	2875	1127	2988	—	—	—	—	—	—
4000 [1888]	713	1609	740	1683	768	1758	795	1832	823	1907	850	1981	878	2056	935	2085	955	2199	975	2312	996	2426	1016	2539	1043	2653	1070	2767	1077	2880	1097	2994	1135	3107	—	—	—	—	—	—
4100 [1935]	726	1692	754	1766	781	1841	809	1915	836	1990	864	2064	922	2091	942	2204	963	2318	983	2431	1003	2545	1024	2658	1056	2772	1084	2885	1084	2999	1105	3112	1144	3226	—	—	—	—	—	—

NOTE: L-Drive left of bold line, M-Drive right of bold line.

Drive Package	L						M					
Motor H.P. [W]	2.0 [1491.4]						3.0 [2237.1]					
Blower Sheave	BK90						BK65					
Motor Sheave	1VP-44						1VP-44					
Turns Open	1	**2**	3	4	5	6	1	2	3	4	5	**6**
RPM	860	**824**	791	757	723	690	1148	1098	1049	999	949	**899**

NOTES: 1. Factory sheave settings are shown in bold print.
2. Re-adjustment of sheave required to achieve rated airflow at ARI minimum E.S.P.
3. Do not operate above blower RPM shown as motor overloading will occur.
4. Do not set motor sheave below one turn open.

AIRFLOW CORRECTION FACTORS 8.5 TON [29.9 kW]

ACTUAL—CFM [L/s]	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1605]	3600 [1699]	3800 [1793]	4000 [1888]	4200 [1982]
TOTAL MBH	0.96	0.97	0.98	0.99	1.00	1.01	1.02	1.03	1.04
SENSIBLE MBH	0.88	0.91	0.94	0.97	1.00	1.03	1.05	1.07	1.09
POWER kW	0.99	0.99	0.99	1.00	1.00	1.01	1.01	1.02	1.03

NOTES: 1. Multiply correction factor times gross performance data.
2. Resulting sensible capacity cannot exceed total capacity.

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC 8.5 TON [29.9 kW]

Component	Standard Indoor Airflow—CFM [L/s]								
	2600 [1227]	2800 [1321]	3000 [1416]	3200 [1510]	3400 [1604]	3600 [1699]	3800 [1793]	4000 [1888]	4200 [1982]
	Resistance—Inches Water [kPa]								
Wet Coil	0.051 [0.013]	0.055 [0.014]	0.060 [0.015]	0.065 [0.016]	0.071 [0.018]	0.076 [0.019]	0.082 [0.020]	0.087 [0.022]	0.093 [0.023]
Economizer 100% R.A. Damper Open	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.022]	0.10 [0.025]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.14 [0.035]
Horizontal Economizer 100% R.A. Damper Open	0.04 [0.009]	0.04 [0.010]	0.05 [0.011]	0.05 [0.012]	0.06 [0.014]	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.021]
Horizontal Economizer 100% O.A. Damper Open	0.08 [0.020]	0.08 [0.020]	0.10 [0.024]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.15 [0.036]	0.16 [0.040]	0.18 [0.044]

NOTE: Add component resistance to duct resistance to determine total external static pressure.
DNA = Data not Available.

Figure 32: Airflow Performance—MPS 010B

Air Flow CFM [L/s]	Capacity Model MPS 010																																										
	External Static Pressure—Inches of Water [kPa]																																											
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]		2.1 [.52]		2.2 [.55]		2.3 [.57]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
3200 [1510]	—	—	—	—	—	—	657	1170	715	1245	742	1319	770	1394	797	1468	825	1543	852	1617	880	1692	956	1698	976	1703	996	1817	1017	1930	1037	2044	1057	2157	1077	2271	1098	2384	1118	2498	1138	2611	1159	2725	1179	2838
3300 [1557]	—	—	—	—	673	1179	701	1253	728	1328	756	1402	783	1477	811	1551	838	1626	866	1700	943	1705	963	1708	948	1822	976	1935	1024	2049	1044	2162	1065	2276	1085	2390	1105	2503	1125	2617	1146	2730	1166	2844	1186	2957
3400 [1605]	—	—	—	—	687	1261	714	1336	742	1410	769	1485	797	1559	824	1634	852	1708	879	1763	950	1811	971	1827	962	1941	989	2054	1032	2168	1052	2281	1072	2395	1092	2508	1113	2622	1133	2735	1153	2849	1174	2962	1194	3076
3500 [1652]	—	—	673	1270	700	1344	728	1419	755	1493	783	1588	810	1642	838	1717	865	1791	938	1813	958	1832	978	1946	975	2059	1003	2173	1039	2286	1059	2400	1080	2513	1100	2627	1120	2740	1141	2854	1161	2968	1181	3081	—	—
3600 [1699]	—	—	686	1352	714	1427	741	1501	769	1576	796	1650	824	1725	851	1799	879	1874	945	1892	966	1951	986	2065	989	2178	1016	2292	1047	2405	1067	2519	1087	2632	1108	2746	1128	2859	1148	2973	1168	3086	1189	3200	—	—
3700 [1746]	672	1361	700	1435	727	1510	755	1584	782	1659	810	1733	837	1808	865	1882	933	1896	953	1956	973	2070	993	2183	1002	2297	1030	2410	1054	2524	1075	2637	1095	2751	1115	2864	1135	2978	1156	3091	1176	3205	1196	3318	—	—
3800 [1793]	686	1443	713	1518	741	1592	768	1667	796	1741	823	1818	861	1890	878	1965	940	2003	960	2075	981	2189	1001	2302	1016	2416	1043	2529	1062	2643	1082	2756	1102	2870	1123	2983	1143	3097	1163	3210	1183	3324	—	—	—	—
3900 [1841]	699	1526	727	1601	754	1675	782	1750	809	1824	837	1899	864	1973	927	2015	948	2080	968	2194	988	2307	1008	2421	1029	2534	1057	2648	1069	2761	1090	2875	1110	2988	1130	3102	1150	3215	1171	3329	1191	3442	—	—	—	—
4000 [1888]	713	1609	740	1683	768	1758	795	1832	823	1907	850	1961	878	2056	935	2085	955	2199	975	2312	996	2426	1016	2539	1043	2653	1070	2767	1077	2880	1097	2994	1117	3107	1138	3221	1158	3334	1178	3448	1199	3561	—	—	—	—
4100 [1935]	726	1692	754	1766	781	1841	809	1915	836	1990	864	2064	922	2091	942	2204	963	2318	983	2431	1003	2545	1024	2658	1056	2772	1084	2885	1084	2999	1105	3112	1125	3226	1145	3339	1166	3453	1186	3566	—	—	—	—	—	—
4200 [1982]	740	1774	767	1849	795	1923	822	1998	850	2072	877	2147	930	2209	950	2323	970	2438	990	2550	1011	2663	1031	2777	1070	2890	1097	3004	1092	3117	1112	3231	1133	3345	1153	3458	1173	3572	1193	3685	—	—	—	—	—	—
4300 [2029]	753	1857	781	1932	808	2006	836	2081	853	2155	917	2215	937	2328	957	2442	978	2555	998	2669	1018	2782	1039	2896	1083	3009	1111	3123	1099	3236	1120	3350	1140	3453	1160	3577	1181	3690	—	—	—	—	—	—	—	—
4400 [2077]	767	1940	794	2014	822	2089	849	2163	877	2238	924	2333	945	2447	965	2560	985	2674	1006	2787	1026	2901	1046	3014	1097	3128	1124	3241	1107	3355	1127	3468	1148	3582	1168	3695	1188	3809	—	—	—	—	—	—	—	—
4500 [2124]	780	2023	808	2097	835	2172	863	2248	912	2338	932	2452	952	2585	973	2679	993	2793	1013	2906	1033	3020	1054	3133	1110	3247	1138	3360	1115	3474	1135	3587	1155	3701	1175	3814	1196	3928	—	—	—	—	—	—	—	—
4600 [2171]	794	2105	821	2180	840	2254	876	2329	919	2457	940	2571	960	2684	980	2798	1000	2911	1021	3025	1041	3138	1061	3252	1124	3365	1151	3479	1122	3592	1142	3706	1163	3819	1183	3933	—	—	—	—	—	—	—	—	—	—
4700 [2218]	807	2188	835	2263	862	2337	906	2462	927	2576	947	2689	967	2803	988	2916	1008	3030	1028	3143	1048	3257	1069	3371	1137	3484	1165	3598	1130	3711	1150	3825	1170	3938	1190	4052	—	—	—	—	—	—	—	—	—	—
4800 [2265]	821	2271	848	2345	876	2420	914	2581	934	2695	955	2808	975	2922	995	3035	1015	3149	1036	3262	1056	3376	1076	3489	1151	3603	1178	3716	1137	3830	1157	3943	1178	4057	1198	4170	—	—	—	—	—	—	—	—	—	—

NOTE: L-Drive left of bold line, M-Drive right of bold line.

Drive Package	L						M					
Motor H.P. [W]	2.0 [1491.4]						3.0 [2237.1]					
Blower Sheave	BK90						BK65					
Motor Sheave	1VP-44						1VP-44					
Turns Open	**1**	2	3	4	5	6	1	2	3	4	5	**6**
RPM	**845**	810	775	739	704	669	1138	1089	1041	992	943	**894**

NOTES: 1. Factory sheave settings are shown in bold print.
2. Re-adjustment of sheave required to achieve rated airflow at ARI minimum E.S.P.
3. Do not operate above blower RPM shown as motor overloading will occur.
4. Do not set motor sheave below one turn open.

AIRFLOW CORRECTION FACTORS 10 TON [35.2 kW]

ACTUAL—CFM [L/s]	3200 [1510]	3400 [1605]	3600 [1699]	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2077]	4600 [2171]	4800 [2265]
TOTAL MBH	0.96	0.97	0.98	0.99	1.00	1.01	1.02	1.03	1.04
SENSIBLE MBH	0.91	0.93	0.95	0.97	1.00	1.02	1.05	1.07	1.09
POWER kW	0.98	0.98	0.99	0.99	1.00	1.00	1.01	1.01	1.01

NOTES: 1. Multiply correction factor times gross performance data.
2. Resulting sensible capacity cannot exceed total capacity.

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC 10 TON [35.2 kW]

Component	Standard Indoor Airflow—CFM [L/s]								
	3200 [1510]	3400 [1604]	3600 [1699]	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2076]	4600 [2171]	4800 [2265]
	Resistance—Inches Water [kPa]								
Wet Coil	0.065 [0.016]	0.071 [0.018]	0.076 [0.019]	0.082 [0.020]	0.087 [0.022]	0.093 [0.023]	0.099 [0.025]	0.105 [0.026]	0.110 [0.027]
Economizer 100% R.A. Damper Open	0.09 [0.022]	0.10 [0.025]	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.14 [0.035]	0.15 [0.037]	0.16 [0.040]	0.17 [0.042]
Horizontal Economizer 100% R.A. Damper Open	0.05 [0.012]	0.06 [0.014]	0.06 [0.015]	0.07 [0.017]	0.08 [0.020]	0.09 [0.021]	0.09 [0.022]	0.10 [0.024]	0.10 [0.025]
Horizontal Economizer 100% O.A. Damper Open	0.11 [0.027]	0.12 [0.030]	0.13 [0.032]	0.15 [0.0.36]	0.16 [0.040]	0.18 [0.044]	0.19 [0.047]	0.20 [0.50]	0.21 [0.052]

NOTE: Add component resistance to duct resistance to determine total external static pressure.
DNA = Data not Available.

Figure 33: Airflow Performance—MPS 012B

Air Flow CFM [L/s]	Model MPS 012																																			
	External Static Pressure—Inches of Water [kPa]																																			
	0.1 [.02]		0.2 [.05]		0.3 [.07]		0.4 [.10]		0.5 [.12]		0.6 [.15]		0.7 [.17]		0.8 [.20]		0.9 [.22]		1.0 [.25]		1.1 [.27]		1.2 [.30]		1.3 [.32]		1.4 [.35]		1.5 [.37]		1.6 [.40]		1.7 [.42]		1.8 [.45]		1.9 [.47]		2.0 [.50]	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
3800 [1793]	—	—	—	—	—	—	—	—	—	—	834	1660	861	1743	888	1826	914	1909	939	1992	965	2075	990	2158	1014	2241	1038	2324	1062	2407	1082	2416	1104	2516	1125	2616	1146	2717	1167	2817
3900 [1840]	—	—	—	—	—	—	—	—	820	1647	847	1734	874	1821	900	1908	926	1995	951	2082	976	2169	1001	2256	1025	2343	1049	2430	1073	2517	1091	2516	1112	2619	1134	2722	1155	2824	1176	2927
4000 [1888]	—	—	—	—	—	—	—	—	833	1726	860	1817	887	1908	913	1999	938	2090	963	2181	988	2272	1013	2363	1037	2454	1060	2545	1079	2519	1100	2624	1122	2729	1143	2834	1164	2939	1184	3044
4100 [1935]	—	—	—	—	—	—	820	1717	847	1812	873	1907	900	2002	925	2097	951	2192	976	2287	1000	2382	1024	2477	1048	2572	1072	2668	1089	2631	1110	2739	1131	2846	1152	2953	1173	3060	1193	3167
4200 [1982]	—	—	—	—	—	—	834	1808	860	1907	887	2006	913	2106	938	2205	963	2304	988	2403	1012	2502	1036	2601	1060	2700	1077	2641	1098	2751	1120	2860	1140	2969	1161	3079	1182	3188	1202	3298
4300 [2029]	—	—	—	—	821	1805	848	1908	874	2011	900	2114	926	2217	951	2320	976	2423	1001	2527	1025	2630	1048	2733	1072	2836	1087	2765	1108	2877	1129	2989	1150	3100	1171	3212	1191	3324	1211	3435
4400 [2076]	—	—	—	—	835	1909	862	2016	888	2123	914	2230	939	2337	964	2445	989	2552	1013	2659	1037	2766	1061	2873	1077	2782	1098	2896	1119	3010	1139	3124	1160	3238	1180	3352	1201	3466	1221	3580
4500 [2123]	—	—	823	1910	850	2021	876	2133	902	2244	928	2355	953	2466	978	2577	1002	2688	1026	2800	1050	2911	1073	3022	1087	2917	1108	3034	1129	3150	1150	3266	1170	3382	1190	3499	1210	3615	1230	3731
4600 [2171]	812	1912	838	2027	865	2142	891	2258	917	2373	942	2488	967	2603	991	2718	1015	2834	1039	2949	1063	3064	1077	2941	1098	3060	1119	3178	1140	3297	1160	3415	1180	3534	1200	3653	1220	3771	1240	3890
4700 [2218]	827	2034	854	2153	880	2272	906	2391	931	2510	956	2630	981	2749	1005	2868	1029	2987	1052	3106	1076	3226	1089	3088	1109	3209	1130	3330	1151	3451	1171	3572	1191	3692	1211	3813	1230	3934	1250	4055
4800 [2265]	842	2163	869	2287	895	2410	920	2533	946	2656	970	2780	995	2903	1019	3026	1043	3149	1066	3273	1079	3119	1100	3243	1121	3366	1141	3489	1162	3612	1182	3735	1202	3858	1221	3981	1241	4104	1260	4227
4900 [2312]	858	2302	884	2429	910	2556	935	2684	960	2811	985	2938	1009	3065	1033	3193	1056	3320	1070	3153	1091	3278	1112	3403	1132	3529	1153	3654	1173	3779	1193	3905	1212	4030	1232	4155	1251	4281	1270	4406
5000 [2359]	874	2449	900	2580	926	2711	951	2843	975	2974	1000	3105	1024	3236	1047	3368	1070	3499	1082	3316	1103	3444	1124	3571	1144	3699	1164	3827	1184	3954	1204	4082	1223	4209	1243	4337	1262	4465	1281	4592
5100 [2407]	890	2604	916	2739	941	2875	966	3010	990	3145	1015	3281	1038	3416	1062	3551	1074	3357	1095	3486	1115	3616	1136	3746	1156	3876	1176	4006	1196	4136	1215	4266	1235	4396	1254	4525	1273	4655	—	—
5200 [2454]	906	2768	932	2907	957	3046	982	3186	1006	3325	1030	3465	1053	3604	1076	3743	1087	3532	1107	3664	1128	3796	1148	3928	1168	4060	1188	4192	1207	4324	1227	4457	1246	4589	1265	4721	1284	4853	—	—
5300 [2501]	923	2940	948	3083	973	3227	997	3370	1021	3514	1045	3657	1068	3800	1079	3579	1100	3713	1120	3848	1140	3982	1160	4117	1180	4251	1200	4385	1219	4520	1239	4654	1258	4789	1276	4923	—	—	—	—
5400 [2548]	939	3121	964	3268	989	3416	1013	3563	1037	3710	1060	3858	1072	3629	1092	3766	1113	3902	1133	4039	1153	4176	1173	4312	1193	4449	1212	4586	1232	4722	1251	4859	1269	4996	—	—	—	—	—	—
5500 [2595]	956	3310	981	3461	1005	3613	1029	3764	1053	3916	1076	4067	1085	3820	1106	3959	1126	4098	1146	4237	1166	4376	1186	4515	1205	4654	1225	4793	1244	4932	—	—	—	—	—	—	—	—	—	—
5600 [2643]	973	3508	998	3663	1022	3819	1045	3974	1068	4130	1079	3877	1099	4018	1120	4159	1140	4301	1160	4442	1179	4583	1199	4724	1218	4866	1237	5007	—	—	—	—	—	—	—	—	—	—	—	—
5700 [2690]	990	3714	1014	3873	1038	4033	1062	4192	1072	3936	1093	4080	1113	4223	1134	4367	1153	4510	1173	4654	1193	4797	1212	4941	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800 [2737]	1007	3928	1031	4092	1055	4255	1078	4419	1087	4144	1107	4290	1128	4435	1148	4581	1167	4727	1187	4873	1206	5018	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE: L-Drive left of bold line, M-Drive right of bold line.

Drive Package	L (B-51)						M (B-58)					
Motor H.P. [W]	3.0 [2237.1]						5.0 [3728.5]					
Blower Sheave	BK72H						BK85H					
Motor Sheave	1VP-44						1VP-65					
Turns Open	1	2	**3**	4	5	6	1	2	3	4	5	6
RPM	1058	1022	**978**	932	861	813	1278	1245	1206	1167	1138	1097

NOTES: 1. Factory sheave settings are shown in bold type.
2. Do not set motor sheave below minimum turns open shown.
3. Re-adjustment of sheave required to achieve rated airflow at ARI minimum E.S.P.
4. Drive data shown is for horizontal airflow with dry coil. Add component resistance to duct resitance to determine toal E.S.P.

AIRFLOW CORRECTION FACTORS 12.5 [44 kW]

ACTUAL—CFM [L/s]	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2077]	4600 [2171]	4800 [2265]	5000 [2360]	5200 [2454]	5400 [2549]	5600 [2643]	5800 [2737]
TOTAL MBH	0.95	0.96	0.97	0.98	0.99	1.00	1.01	1.02	1.03	1.04	1.05
SENSIBLE MBH	0.85	0.88	0.91	0.94	0.97	1.00	1.03	1.05	1.07	1.09	1.11
POWER kW	0.98	0.98	0.99	0.99	0.99	1.00	1.00	1.01	1.02	1.02	1.03

NOTES: 1. Multiply correction factor times gross performance data.
2. Resulting sensible capacity cannot exceed total capacity.

[ ] Designates Metric Conversions

COMPONENT AIR RESISTANCE, IWC 12.5 TON [44 kW]

Component	Standard Indoor Airflow—CFM [L/s]										
	3800 [1793]	4000 [1888]	4200 [1982]	4400 [2076]	4600 [2171]	4800 [2265]	5000 [2359]	5200 [2454]	5400 [2548]	5600 [2643]	5800 [2737]
	Resistance—Inches Water [kPa]										
Wet Coil	0.082 [0.020]	0.087 [0.022]	0.093 [0.023]	0.099 [0.025]	0.105 [0.026]	0.110 [0.027]	0.115 [0.029]	0.120 [0.030]	0.125 [0.031]	0.131 [0.033]	0.136 [0.034]
Economizer 100% R.A. Damper Open	0.12 [0.030]	0.13 [0.032]	0.14 [0.035]	0.15 [0.037]	0.16 [0.040]	0.17 [0.042]	0.18 [0.045]				
Horizontal Economizer 100% R.A. Damper Open	0.07 [0.017]	0.08 [0.020]	0.09 [0.021]	0.09 [0.022]	0.10 [0.024]	0.10 [0.025]	0.10 [0.024]	0.09 [0.022]	0.10 [0.025]	0.12 [0.030]	0.14 [0.035]
Horizontal Economizer 100% O.A. Damper Open	0.15 [0.036]	0.16 [0.040]	0.18 [0.44]	0.19 [0.047]	0.20 [0.050]	0.21 [0.052]	0.21 [0.052]	0.21 [0.052]	0.22 [0.055]	0.23 [0.057]	0.24 [0.060]

NOTE: Add component resistance to duct resistance to determine total external static pressure.
DNA = Data not Available.

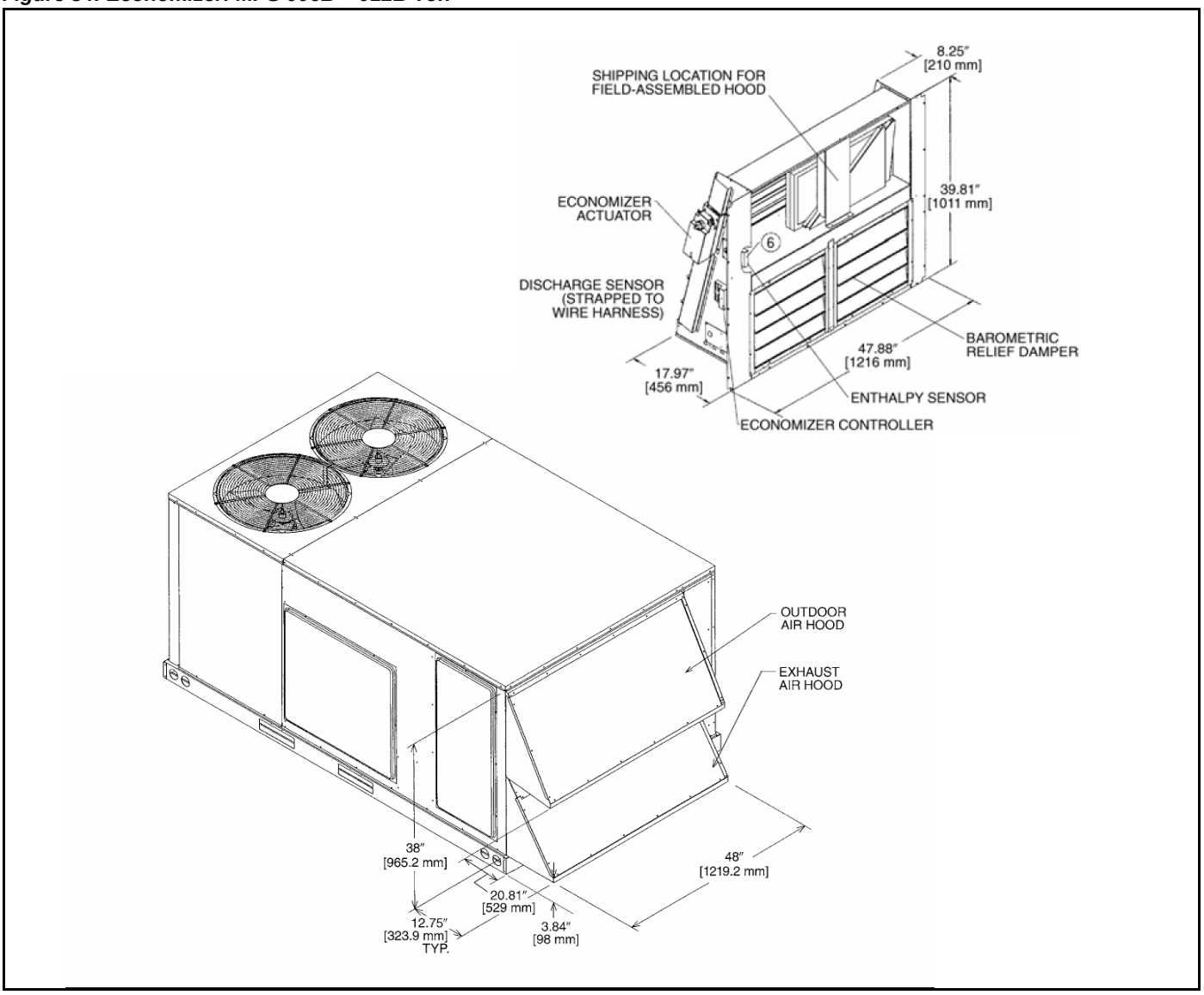
Table 20: Accessory Weights

Accessory	Daikin Applied Part Number	Shipping Weight	Operating Weight
Economizer, Analog Controls, 6-12 ton, Vertical	MXRD-PDCM3	90 [41]	81 [32]
Economizer, Analog Controls, 6-12 ton, Horizontal	MXRD-RDCM3	90 [41]	81 [32]
Economizer, DDC Controls, 6-12 ton, Vertical	MXRD-PJCM3	90 [41]	81 [32]
Economizer, DDC Controls, 6-12 ton, Horizontal	MXRD-RJCM3	90 [41]	81 [32]
OA damper, 6-12 ton, Manual	MXRF-KDA1	26 [12]	21 [10]
OA damper, Analog Controls, 6-12 ton, Motorized	MXRF-JDB1	43 [19]	38 [17]
OA damper, DDC Controls, 6-12 ton, Motorized	MXRF-AW04	43 [19]	38 [17]
Power Exhaust Kit, 6 - 12 Ton 208/230 V	RXRX-BFF02C	44 [20]	42 [19]
Power Exhaust Kit, 6 - 12 Ton 460V	RXRX-BFF02D	44 [20]	42 [19]
Power Exhaust Kit, 6 - 12 Ton 575 V	RXRX-BFF02Y	44 [20]	42 [19]
14" Roof Curb, 6-12 Ton	RXKG-CAD14	90 [41]	85 [39]
Receptacle Outlet	RXRX-AN01	N/A	N/A
Thermostat Guard	113130101	N/A	N/A
7-Day Programmable Stat	113129901	N/A	N/A
Ionization Smoke Detector	113126601	N/A	N/A
CO_2 Sensor	RXRX-AR02	N/A	N/A
Dual Enthalpy Kit	RXRX-AV02	N/A	N/A

Economizers: 6–12.5 Tons [21.1–44 kW]

- Features economizer controller
- Available factory installed or field accessory
- Gear driven direct drive actuator
- Fully modulating (0-100%)
- Low leakage dampers
- Slip-in design for easy installation
- Plug-in polarized electrical connections
- Pre-configured—no field adjustments necessary
- Standard barometric relief damper
- Single enthalpy with dual enthalpy upgrade kit available
- CO_2 input sensor available
- Field assembled hood ships with economizer
- Economizer ships complete for downflow duct application
- Field installed power exhaust available
- Optional remote minimum position (Honeywell# S963B112B) available

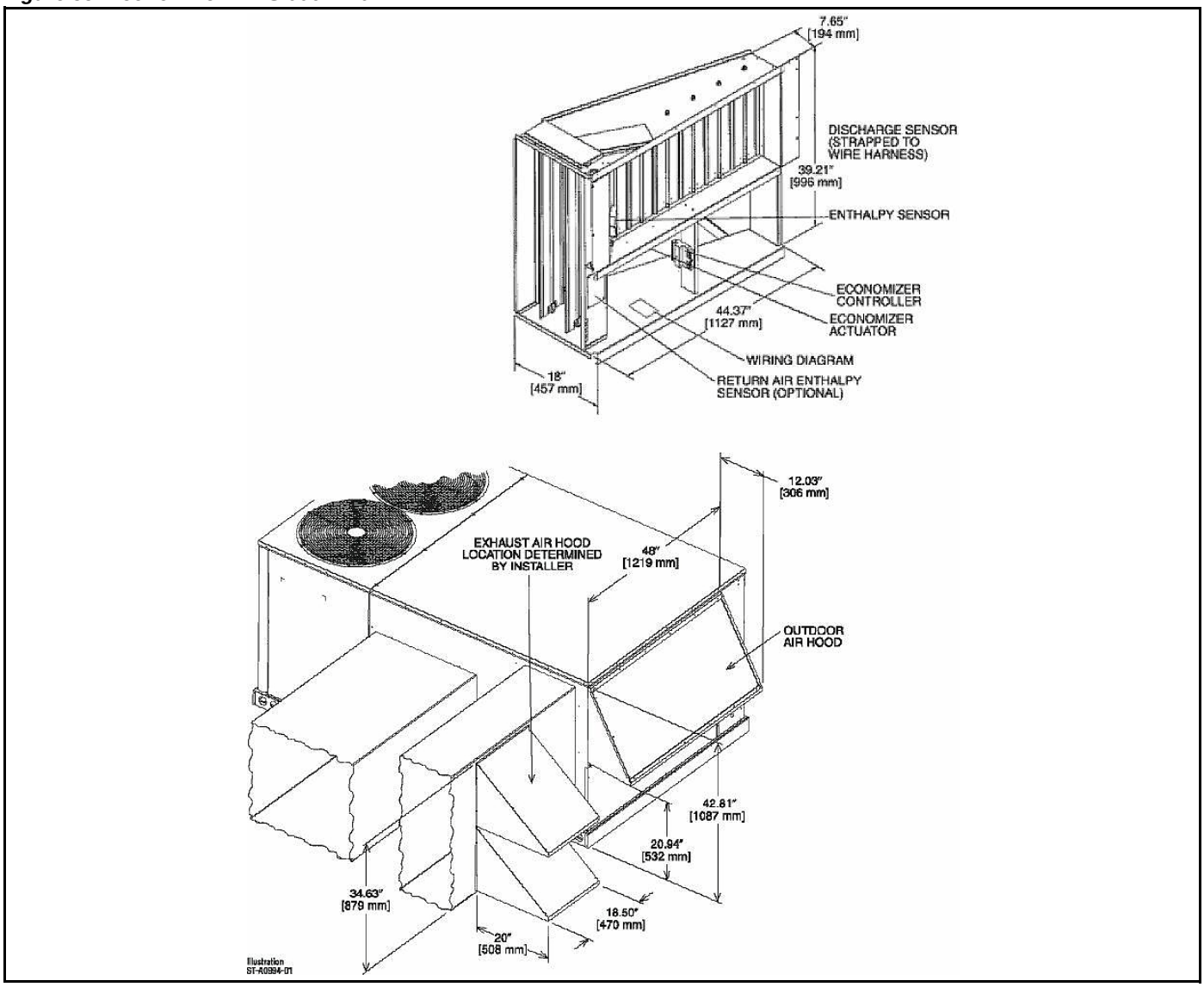
Figure 34: Economizer: MPS 006B – 012B Ton



Economizers: 6–12.5 Tons [21.1–44 kW]
Horizontal Duct Installation

- Features economizer controller
- Available as a field installed accessory only
- Gear driven direct drive actuator
- Fully modulating (0-100%)
- Low leakage dampers
- Slip-in design for easy installation
- Plug-in polarized electrical connections
- Pre-configured—no field adjustments necessary
- Standard barometric relief damper
- Single enthalpy with dual enthalpy upgrade kit available
- CO_2 input sensor available
- Field assembled hood ships
- With economizer
- Economizer ships complete for
- Horizontal duct application
- Field installed power exhaust available
- Optional remote minimum position (Honeywell# S963B112B) available

Figure 35: Economizer: MPS 006B – 012B



Accessories

Fresh Air Dampers and Power Exhaust

Table 21: Air Damper and Exhaust Accessories

Daikin Applied Model No.	Description
MXRF-JDB1	Motorized fresh air damper for MPS-006B through -012B (back side)
MXRF-KDA1	Manual fresh air damper for MPS-006B through -012B (back side)
RXRX-AT01	Motorized Kit for MXRF-HEA1
RXRX-BFF02C	Power exhaust, 208/230 volt for MPS-006B through -012B
RXRX-BFF02D	Power exhaust, 460 volt for MPS-006B through -012B
RXRX-BFF02Y	Power exhaust, 575 volt for MPS-006B through -012B

Power Exhaust Kit For Economizers: 6–12 Tons [21.1–70.3 Kw]

RXRX-BFF02 (C,D,Y Voltages) for MPS-006B-012B

- For economizer controller
- Downflow or horizontal applications
- Requires separate power supply with disconnect
- Adjustable switch on economizer, factory preset to energize power exhaust at 95% outside air position
- Polarized plug connects power exhaust relay to economizer

Figure 36: Vertical Airflow Power Exhaust Economizer: MPS 006B – 012B

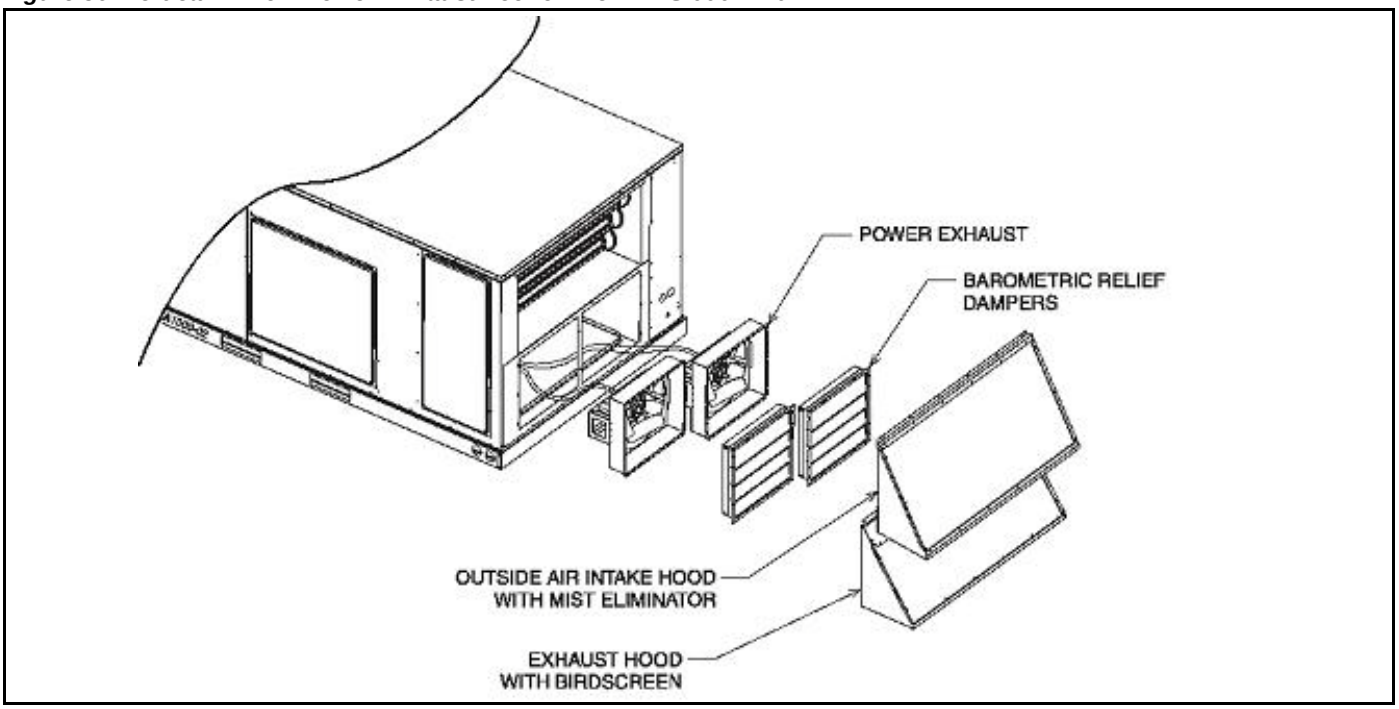


Figure 37: Horizontal Airflow Power Exhaust Economizer: MPS 006B – 012B

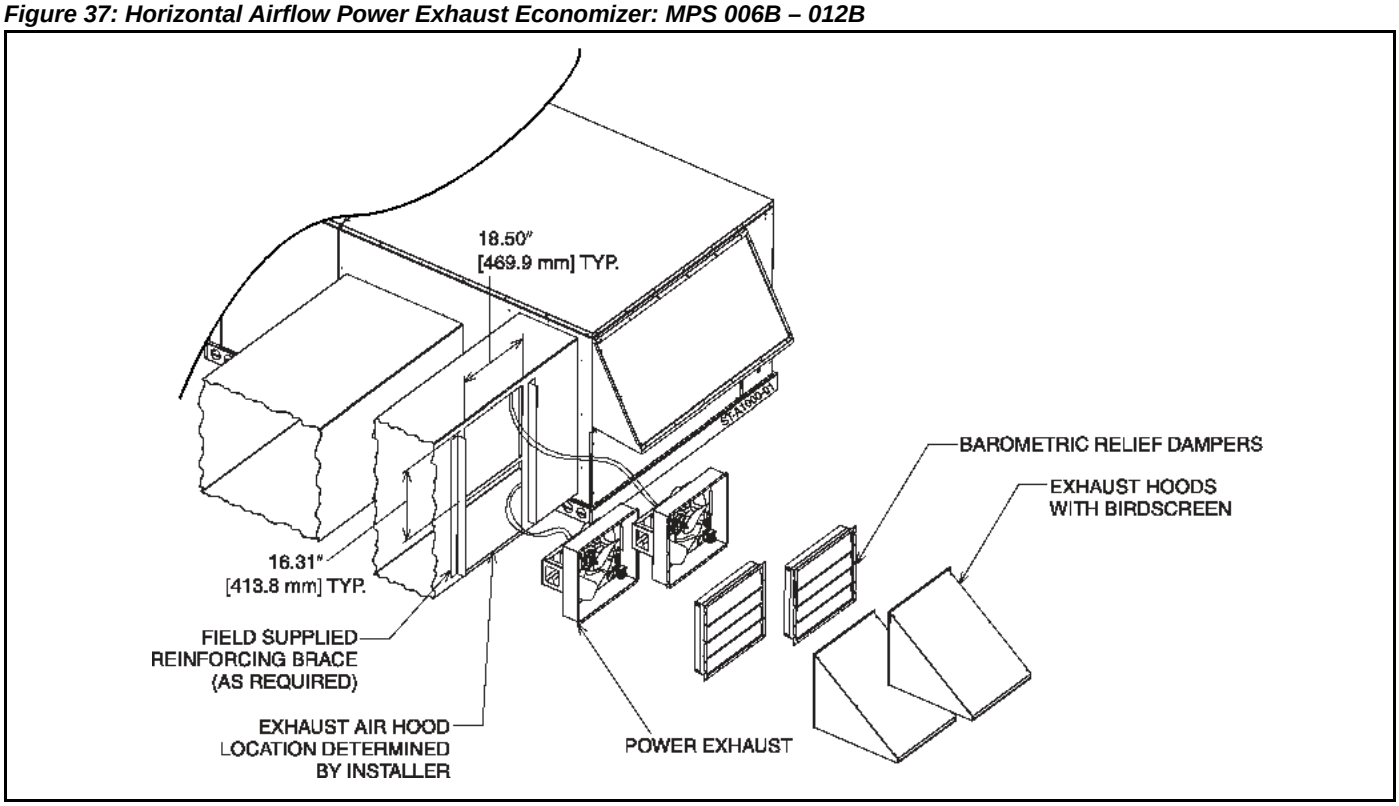


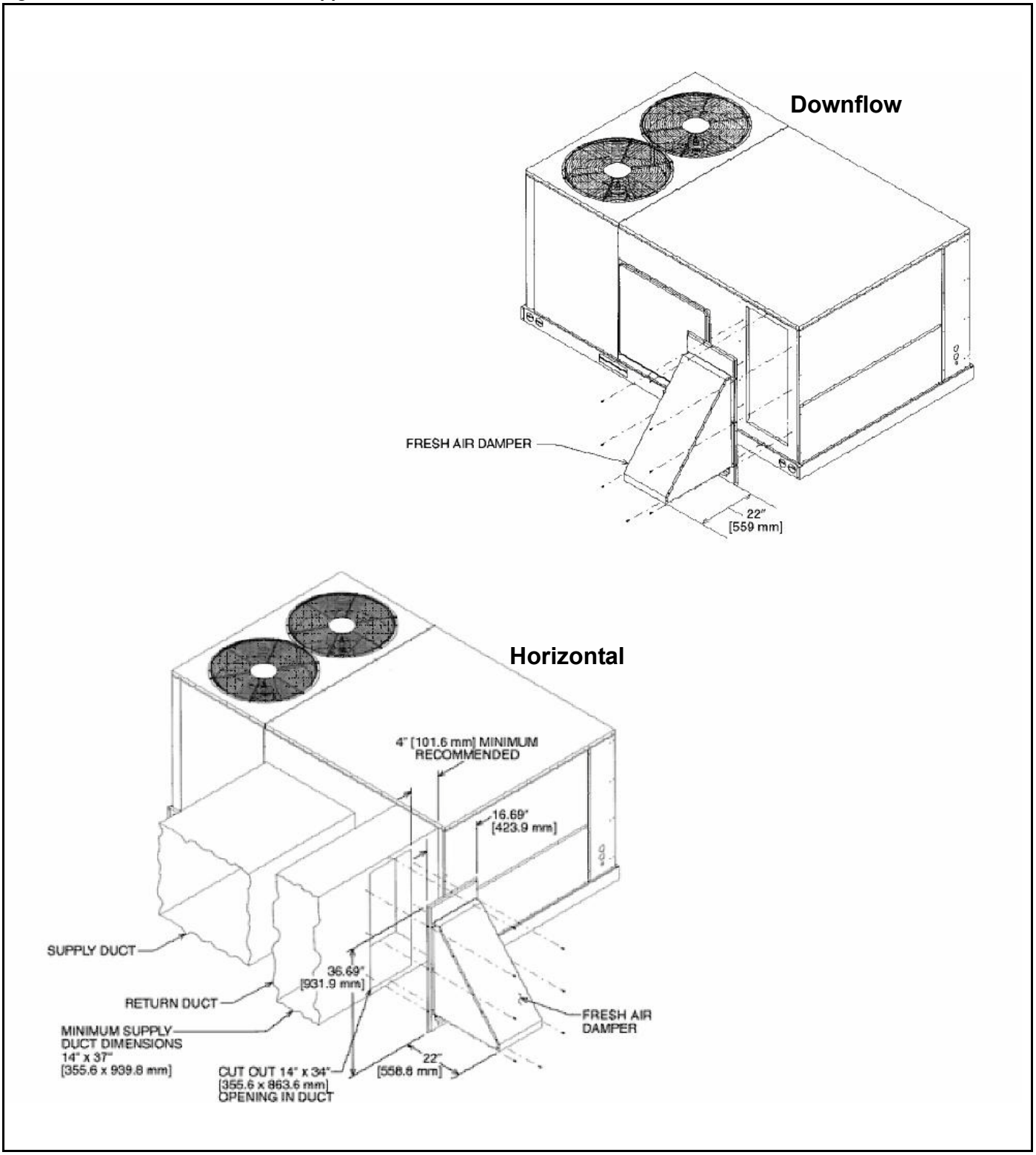
Table 22: Power Exhaust

Model No.	No. of Fans	Volts	Phase	HP (ea.)	Low Speed		High Speed		FLA (ea.)	LRA (ea.)
					CFM [L/s]	RPM	CFM [L/s]	RPM		
RXRX-BFF02C	2	208-230	1	0.33	2200 [1038]	1518	2500 [1179]	1670	1.48	3.6
RXRX-BFF02D	2	460	1	0.33	2200 [1038]	1518	2500 [1179]	1670	0.75	1.8
RXRX-BFF02Y	2	575	1	0.33	2200 [1038]	1518	2500 [1179]	1670	0.81	1.5

Note: [1] CFM is at 0" W.C. external static pressure.
[2] Unit includes 575 to 460 Volt step-down transformer

Fresh Air Damper Kit for 6–12.5 Ton [21.1–44.0 Kw] Units

Figure 38: Downflow and Horizontal Application: MPS 006B – 012B



Roofcurbs

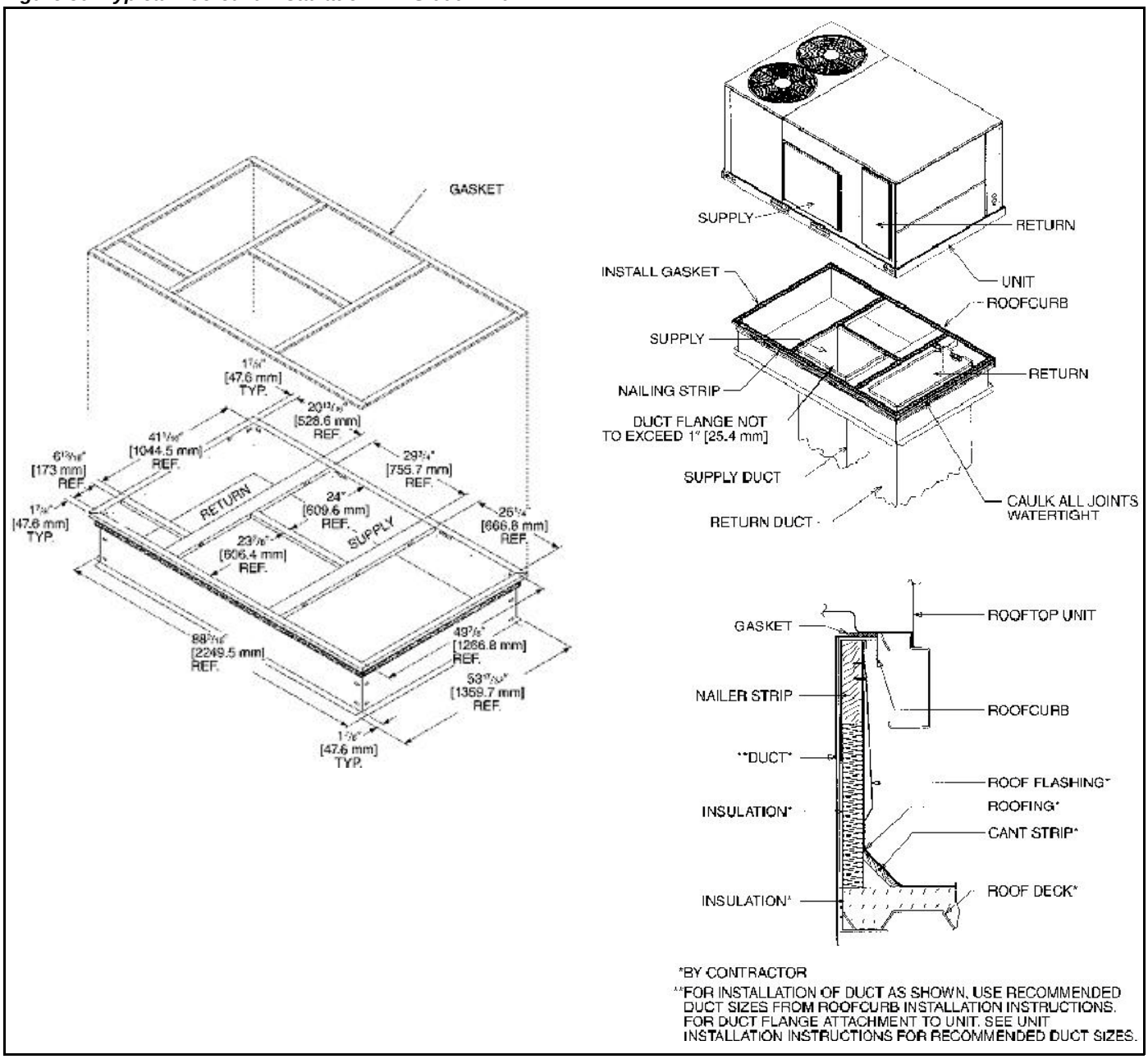
Table 23: Roofcurb Accessories

Daikin Applied Model No.	Description
RXKG-CAE14	MPS-006B through -012B

Roofcurbs (Full Perimeter): 6–12.5 Tons [21.1–44.0 kW]

- One available height (14" [356 mm] for all models
- Quick assembly corners for easy installation
- Opening provided in bottom pan to match the “Thru the Curb” electrical connection opening provided on the unit base pan
- 1" [25 mm] x 4" [102 mm] Nailer provided
- Insulating panels provided
- Sealing gasket (28" [711 mm]) provided with Roofcurb.
- 18 gauge galvanized steel

Figure 39: Typical Roofcurb Installation: MPS 006B – 012B



Furnace Section Controls and Ignition System

Normal Furnace Operating Sequence

This unit is equipped with a two stage integrated direct spark ignition control.

Normal Heat Mode

Call For First Stage (Low Fire) Only:

1. Zone thermostat contacts close, a call for first stage (low fire) heat is initiated.
2. Control runs self check.
3. Control checks the high-limit switch for normally closed contacts, each pressure switch for normally open contacts, and all flame rollout switches for continuity.
4. Control energizes each low-fire inducer.
5. Control checks each low-fire pressure switch for closure.
6. If each low-fire pressure switch is closed, the control starts a 30 second prepurge. If either low-fire pressure switch is still open after 180 seconds, the high-fire inducers will be energized until closure.
7. After prepurge time-out, control initiates spark for two seconds minimum (seven second maximum) ignition trial, and initiates a 120 second - second stage (high fire) warm up timing.
8. Control detects flame, de-energizes spark and initiates 45 second delay on blower timing.
9. After a fixed 45 seconds indoor blower delay on, the control energizes the indoor blower.
10. After a fixed 120 seconds second stage warm-up period, control checks thermostat input. If only W1 is called for, W2 is de-energized and the control starts a 30 second off delay on the W2 inducer.
11. After fixed 30 seconds the W2 inducer is de-energized.
12. Control enters normal operating loop where all inputs are continuously checked.
13. Zone thermostat is satisfied.
14. Control de-energizes gas valve.
15. Control senses loss of flame.
16. Control initiates five second inducer postpurge and 90 second indoor blower delay off.
17. Control de-energizes inducer blower.
18. Control de-energizes indoor blower.
19. Control in the stand by mode with solid red LED.

Call For Second Stage, After First Stage Established; Starting from A.11:

1. If a call for second stage (high fire) is initiated after a call for first stage heat is established, the control energizes the W2 inducer and energizes the second stage of the gas valve.
2. Control enters normal operating loop where all inputs are continuously checked.

Second Stage Satisfied; First Stage Still Called For; Starting From B.3:

1. Once the call for second stage is satisfied, the control starts a 30 second off delay on W2 inducer and reduces the gas valve to first stage.
2. Control enters normal operating loop where all inputs are continuously checked.

First Stage Satisfied:

1. Zone thermostat is satisfied.
2. Control de-energizes gas valve.
3. Control senses loss of flame.
4. Control initiates five second inducer postpurge and 90 second indoor blower delay off.
5. Control de-energizes inducer blower.
6. Control de-energizes indoor blower.
7. Control in the stand by mode with solid red LED.

First Stage and Second Stage Called Simultaneously:

1. Zone thermostat contacts close, a call for first stage (low fire) and second stage (high fire) heat is initiated.
2. Control runs self check.
3. Control checks the high-limit switch for normally closed contacts, each pressure switch for normally open contacts, and all flame rollout switches for continuity.
4. Control energizes each low-fire inducer.
5. Control checks each pressure switch for closure.
6. If each low-fire pressure switch is closed, the control starts a 30 second prepurge. If either switch is still open after 180 seconds, the high-fire inducers will be energized until closure.
7. After prepurge time-out, control initiates spark for two seconds minimum (seven seconds maximum) ignition trial, and initiates a 120 second stage warm up timing.
8. Control detects flame, de-energizes spark and starts a 45 second indoor blower delay on timing.
9. After a fixed 45 seconds indoor blower delay on, the control energizes the indoor blower.
10. After a fixed 120 seconds second stage warm-up period, control checks the thermostat input. If W1 and W2 is present control enters normal operating loop where all inputs are continuously checked.

First Stage and Second Stage Removed Simultaneously:

1. Upon a loss of W1 and W2 the gas valve is de-energized.

2 Upon a loss of flame, each inducer will complete a five second postpurge and the indoor blower will complete a 90 second delay off.

3 Control in the stand by mode with solid red LED.

The integrated control is a four-ignition system.

After a total of four cycles without sensing main burner flame, the system goes into a 100% lockout mode. After one hour, the ignition control repeats the prepurge and ignition cycles for 4 tries and then go into 100% lockout mode again. It continues this sequence of cycles and lockout each hour until ignition is successful or power is interrupted. During the lockout mode, neither the ignitor or gas valve will be energized until the system is reset by turning the thermostat to the “OFF” position or interrupting the electrical power to the unit for 3 seconds or longer. The induced draft blower and main burner will shut off when the thermostat is satisfied.

The circulating air blower will start and run on the heating speed if the thermostat fan switch is in the “ON” position. The integrated furnace control is equipped with diagnostic LED. The LED is lit continuously when there is power to the control, with or without a call for heat. If the LED is not lit, there is either no power to the control or there is an internal component failure within the control, and the control should be replaced.

If the control detects the following failures, the LED will flash on for approximately 1/4 second, then off for 3/4 second for designated failure detections.

1 Flash: Failed to detect flame within the four tries for ignition.

2 Flash: Pressure switch or induced draft blower problem detected.

3 Flash: High limit or auxiliary limit open.

4 Flash: Flame sensed and gas valve not energized or flame sensed with no “W” signal.

5 Flash: Over-temperature switch open.

Operating Instructions

This unit is equipped with integrated furnace control. This device lights the main burners each time the room thermostat (closes) calls for heat. See operating instructions on the back of the furnace/controls access panel.

⚠ DANGER

Never test for gas leaks with an open flame. It can cause an explosion or fire resulting in property damage, personal injury or death. Use a commercially available soap solution made specifically for the detection of leaks to check all connections as specified in the Mechanical Installation section of these instructions.

To Start Furnace

1 Set the thermostat to its lowest setting.

2 Turn off all electric power to the unit.

3 This unit does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

4 Remove control door.

5 Move control knob to the “OFF” position. Turn the knob by hand only, do not use any kind of tool.

6 Wait five minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow B in the safety information on the Operating Instructions located on the back of the controls/access panel. If you don't smell gas, go to the next step.

7 Move the gas control knob from “OFF” position to “ON” position. Operate this unit with the gas control knob in the “ON” position only. Do not use the gas control knob as a means for throttling the burner input rate.

8 Replace the control door.

9 Turn on all electric power to the unit.

10 Set the thermostat to the desired setting.

11 If the unit will not operate, follow the instructions below on how to shut down the furnace.

⚠ DANGER

The spark ignitor and ignition leading from the ignition control are high voltage. Keep hands or tools away to prevent electrical shock. Shut off electrical power before servicing any of the controls. Failure to adhere to this warning can result in personal injury or death.

The initial start-up on a new installation may require the control system to be energized for some time until air has bled through the system and fuel gas is available at the burners.

To Shut Down Furnace

1 Set the thermostat to the lowest setting.

2 Turn off all electric power to the unit if service is to be performed.

3 Remove control door.

4 Move control knob to the “OFF” position.

5 Replace control door.

⚠ DANGER

Should overheating occur or the gas supply fail to shut off, shut off the manual gas valve to the unit before shutting off the electrical supply. Failure to do so can result in an explosion or fire causing property damage, severe personal injury or death!

Burners

Burners for these units have been designed so that field adjustment is not required. Burners are tray-mounted and accessible for easy cleaning when required.

Manual Reset Over-Temperature Control

Two manual reset over-temperature controls are located on the burner shield. These devices sense blockage in the heat exchanger or insufficient combustion air. This shuts off the main burners if excessive temperatures occur in the burner compartment.

Operation of this control indicates an abnormal condition. Therefore, the unit should be examined by a qualified installer, service agency, or the gas supplier before being placed back into operation.

⚠ DANGER

DO NOT JUMPER THIS DEVICE! DO NOT reset the over-temperature control without taking corrective action to assure that an adequate supply of combustion air is maintained under all conditions of operation. Failure to do so can result in carbon monoxide poisoning or death. Replace this control only with the identical replacement part.

Pressure Switch

This furnace has two pressure switches for sensing a blocked exhaust or a failed induced draft blower. They are normally open and close when the induced draft blower starts, indicating air flow through the combustion chamber.

Limit Control

The supply air high temperature limit cut-off is set at the factory and cannot be adjusted. It is calibrated to prevent the air temperature leaving the furnace from exceeding the maximum outlet air temperature.

⚠ DANGER

Do not jumper this device! Doing so can cause a fire or explosion resulting in property damage, personal injury or death.

IMPORTANT: Replace this control only with the identical replacement part.

General

Advise The Customer

1. Change the air filters regularly. The heating system operates better, more efficiently and more economically.
2. Except for the mounting platform, keep all combustible articles three feet from the unit and exhaust system.
3. **IMPORTANT:** Replace all blower doors and compartment cover after servicing the unit. Do not operate the unit without all panels and doors securely in place.
4. Do not allow snow or other debris to accumulate in the vicinity of the unit.

Unit Maintenance

Furnace Section

The unit's furnace should operate for many years without excessive scale build-up in flue passageways; however, it is recommended that a qualified installer, service agency, or the gas supplier annually inspect the flue passageways, the exhaust system and the burners for continued safe operation, paying particular attention to deterioration from corrosion or other sources.

If during inspection the flue passageways and exhaust system are determined to require cleaning, the following procedures should be followed (by a qualified installer, service agency, or gas supplier):

1. Turn off the electrical power to the unit and set the thermostat to the lowest temperature.
2. Shut off the gas supply to the unit either at the meter or at manual valve in the supply piping.

⚠ DANGER

Label all wires prior to disconnection when servicing controls. wiring errors can cause improper and dangerous operation resulting in fire, electrical shock, property damage, personal injury or death.

3. Remove the furnace controls access panel and the control box cover.
4. Disconnect the gas supply piping from the gas valve.
5. Disconnect the wiring to the induced draft blower motor, gas valve, flame sensor, and flame roll-out control, and ignitor cable. Mark all wires disconnected for proper reconnection.
6. Remove the screws (4) connecting the burner tray to the heat exchanger mounting panel.
7. Remove the burner tray and the manifold assembly from the unit.
8. Remove the screws (10) connecting the two induced draft blowers to the collector box and screws (12) connecting the inducer mounting plate to the heat exchanger center panel. Remove the induced draft blower and the collector box from the unit.
9. Remove the turbulators from inside the heat exchangers by inserting the blade of a screwdriver under the locking tabs. Pop the tabs out of the expanded grooves of the heat exchanger. Slide the turbulators out of the heat exchangers.
10. Direct a water hose into the outlet of the heat exchanger top. Flush the inside of each heat exchanger tube with water. Blow out each tube with air to remove excessive moisture.
11. Reassemble (steps 1 through 9 in reverse order). **Be careful not to strip out the screw holes used to mount the collector box and inducer blower. Replace inducer blower gasket and collector box gasket with factory replacements if damaged.**

⚠ DANGER

Holes in the exhaust transition or heat exchanger can cause toxic fumes to enter the home. The exhaust transition or heat exchanger must be replaced if they have holes or cracks in them. Failure to do so can cause carbon monoxide poisoning resulting in personal injury or death.

The manufacturer recommends that a qualified installer, service agency or the gas supplier visually inspect the burner flames for the desired flame appearance at the beginning of the heating season and approximately midway in heating season.

The manufacturer also recommends that a qualified installer, service agency or the gas supplier clean the flame sensor with steel wool at the beginning of the heating season.

⚠ DANGER

Power supply to unit must be disconnected before making field connections. To avoid electrical shock, personal injury or death, be sure to rigorously adhere to field wiring procedures regarding proper lockout and tagout of components.

Maintenance

Lubrication

IMPORTANT: DO NOT attempt to lubricate the bearings on the blower motor or the induced draft blower motor. Addition of lubricants can reduce the motor life and void the warranty.

The blower motor and induced draft blower motor are pre-lubricated by the manufacturer and do not require further attention.

A qualified installer, service agency or the gas supplier must periodically clean the motors to prevent the possibility of overheating due to an accumulation of dust and dirt on the windings or on the motor exterior. And, as suggested elsewhere in these instructions, the air filters should be kept clean because dirty filters can restrict air flow and the motor depends upon sufficient air flowing across and through it to prevent overheating.

Cooling Section Maintenance

⚠ DANGER

Power supply to unit must be disconnected before making field connections. To avoid electrical shock, personal injury or death, be sure to rigorously adhere to field wiring procedures regarding proper lockout and tagout of components.

It is recommended that at the beginning of each cooling season a qualified installer or service agency inspect and clean the cooling section of this unit. The following areas should be addressed: evaporator coil. condenser coil, condenser fan motor and venturi area.

To Inspect The Evaporator Coil

1. Open the control/filter access panel and remove filters. Also, remove blower access panel. In downflow applications remove the horizontal return to gain access.

⚠ DANGER

Label all wires prior to disconnection when servicing the unit. Wiring errors can cause improper and dangerous operation resulting in fire, electrical shock, property damage, severe personal injury or death.

2. Shine a flashlight on the evaporator coil (both sides) and inspect for accumulation of lint, insulation, etc.
3. If coil requires cleaning, follow the steps shown below.

Cleaning Evaporator Coil

1. The coil should be cleaned when it is dry. If the coil is coated with dirt or lint, vacuum it with a soft brush attachment. Be careful not to bend the coil fins.
2. If the coil is coated with oil or grease, clean it with a mild detergent-and-water solution. Rinse the coil thoroughly with water. **IMPORTANT: Do not** use excessive water pressure. Excessive water pressure can bend the fins and tubing of the coil and lead to inadequate unit performance. Be careful not to splash water excessively into unit.
3. Inspect the drain pan and condensate drain at the same time the evaporator coil is checked. Clean the drain pan by flushing with water and removing any matters of obstructions which may be present.
4. Go to next section for cleaning the condenser coil.

Cleaning Condenser Coil, Condenser Fan, Circulation Air Blower and Venturi

1. Remove the compressor access panel. Disconnect the wires to the condenser fan motor in the control box (see wiring diagram).
2. The coil should be cleaned when it is dry. If the coil is coated with dirt or lint, vacuum it with a soft brush attachment. Be careful not to bend the coil fins.
3. If the coil is coated with oil or grease, clean it with a mild detergent-and-water solution. Rinse the coil thoroughly with water. **IMPORTANT:** Do not use excessive water pressure. Excessive water pressure can bend the fins and tubing of the coil and lead to inadequate unit performance. Be careful not to splash water excessively into unit.
4. The venturi should also be inspected for items of obstruction such as collections of grass, dirt or spider webs. Remove any that are present.
5. Inspect the circulating air blower wheel and motor for accumulation of lint, dirt or other obstruction and clean it necessary. Inspect the blower motor mounts and the blower housing for loose mounts or other damage. Repair or replace if necessary.

Re-Assembly

1. 1 Reconnect fan motor wires per the wiring diagram attached to the back of the cover.
2. Close the filter control and replace the blower/evaporator coil access panels.
3. Replace the control box cover.
4. Restore electrical power to the unit and check for proper operation, especially the condenser fan motor.

System Charging Charts

Figure 40: System Charging Charts - MPS 006B Cooling

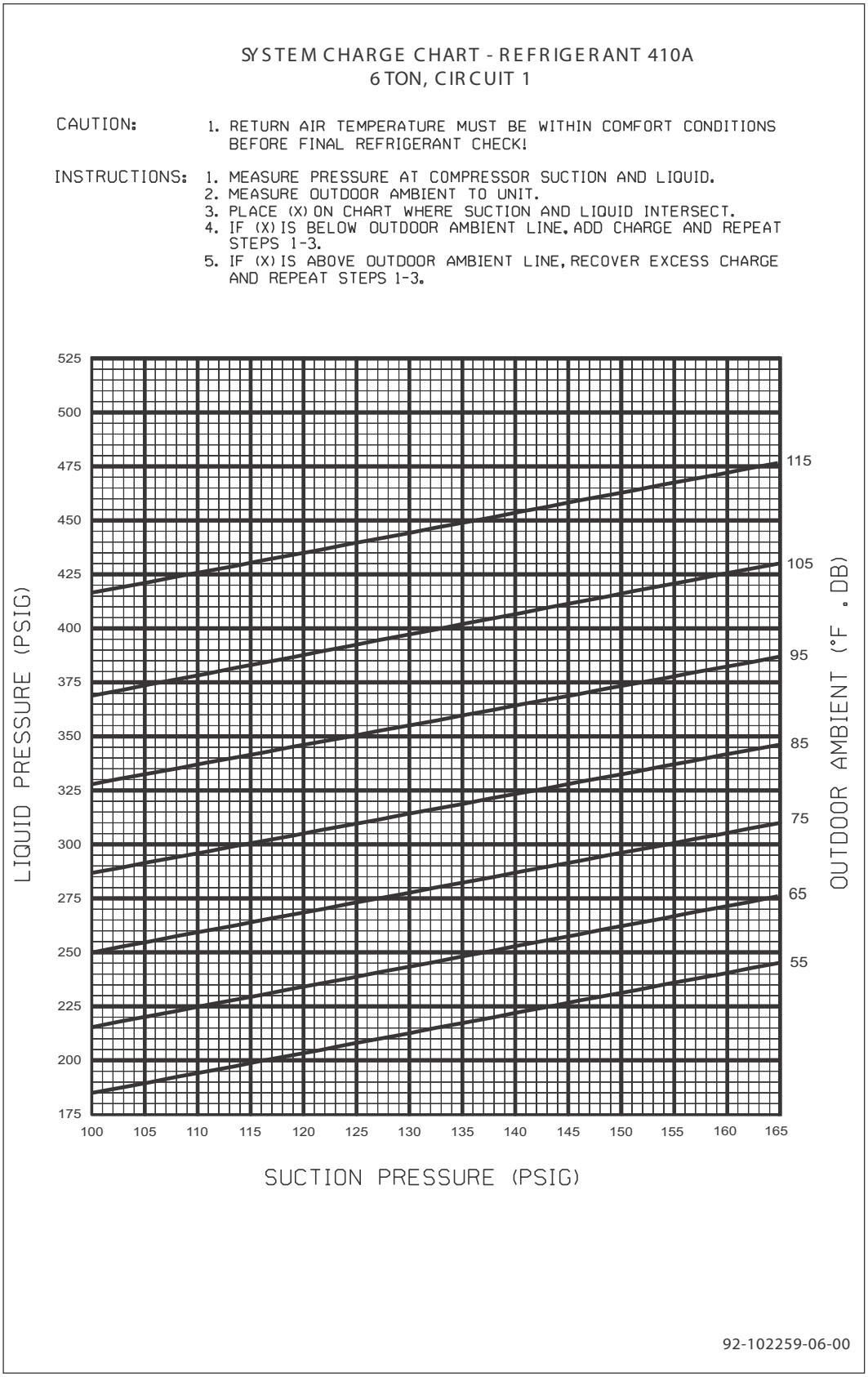
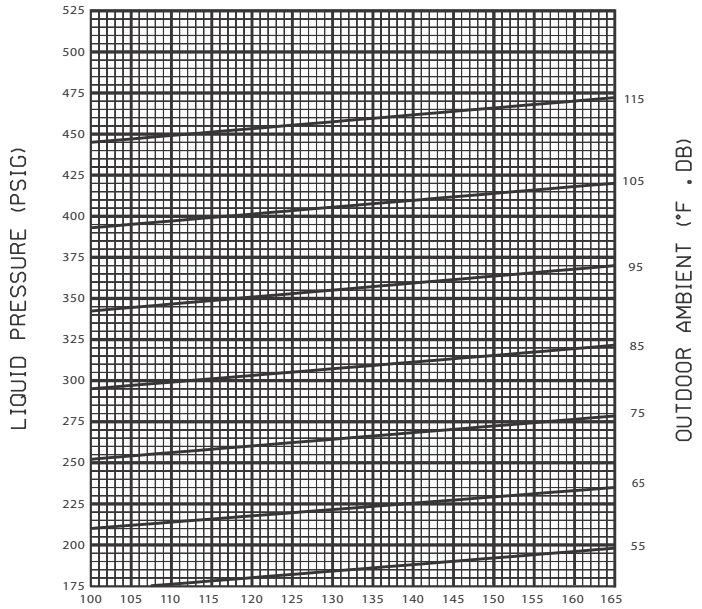


Figure 41: System Charging Charts - MPS 007B Cooling (Dual Circuit)

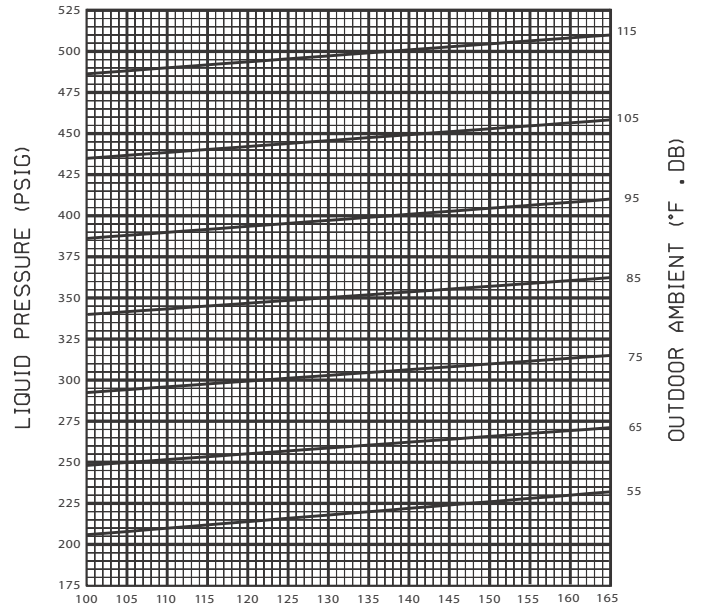
SYSTEM CHARGE CHART - REFRIGERANT 410A
7 TON, CIRCUITS 1 & 2

CAUTION:
1. BOTH COMPRESSORS MUST BE OPERATING BEFORE CHECKING REFRIGERANT CHARGE.
2. RETURN AIR TEMPERATURE MUST BE WITHIN COMFORT CONDITIONS BEFORE FINAL REFRIGERANT CHECK!

INSTRUCTIONS:
1. MEASURE PRESSURE AT COMPRESSOR SUCTION AND LIQUID.
2. MEASURE OUTDOOR AMBIENT TO UNIT.
3. PLACE (X) ON CHART WHERE SUCTION AND LIQUID INTERSECT.
4. IF (X) IS BELOW OUTDOOR AMBIENT LINE, ADD CHARGE AND REPEAT STEPS 1-3.
5. IF (X) IS ABOVE OUTDOOR AMBIENT LINE, RECOVER EXCESS CHARGE AND REPEAT STEPS 1-3.



SUCTION PRESSURE (PSIG)
-B090, CIRCUIT 1



SUCTION PRESSURE (PSIG)
-B090, CIRCUIT 2

92-102259-08-00

Figure 42: System Charging Charts - MPS 008B Cooling

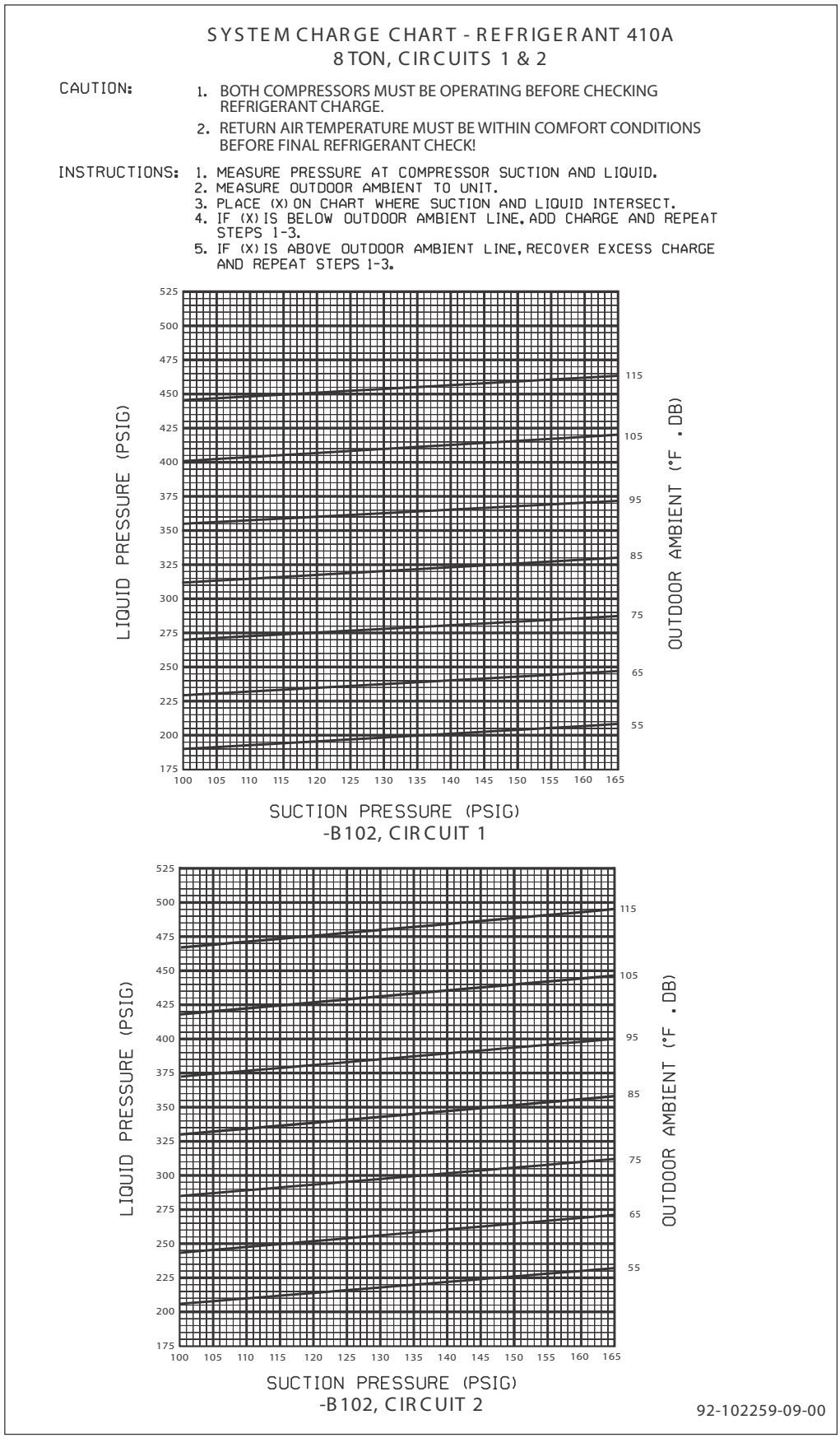

SYSTEM CHARGE CHART - REFRIGERANT 410A
8 TON, CIRCUITS 1 & 2
CAUTION:
1. BOTH COMPRESSORS MUST BE OPERATING BEFORE CHECKING REFRIGERANT CHARGE.
2. RETURN AIR TEMPERATURE MUST BE WITHIN COMFORT CONDITIONS BEFORE FINAL REFRIGERANT CHECK!
INSTRUCTIONS:
1. MEASURE PRESSURE AT COMPRESSOR SUCTION AND LIQUID.
2. MEASURE OUTDOOR AMBIENT TO UNIT.
3. PLACE (X) ON CHART WHERE SUCTION AND LIQUID INTERSECT.
4. IF (X) IS BELOW OUTDOOR AMBIENT LINE, ADD CHARGE AND REPEAT STEPS 1-3.
5. IF (X) IS ABOVE OUTDOOR AMBIENT LINE, RECOVER EXCESS CHARGE AND REPEAT STEPS 1-3.
LIQUID PRESSURE (PSIG)
525 500 475 450 425 400 375 350 325 300 275 250 225 200 175
OUTDOOR AMBIENT (°F . DB)
115 105 95 85 75 65 55
100 105 110 115 120 125 130 135 140 145 150 155 160 165
SUCTION PRESSURE (PSIG)
-B102, CIRCUIT 1
LIQUID PRESSURE (PSIG)
525 500 475 450 425 400 375 350 325 300 275 250 225 200 175
OUTDOOR AMBIENT (°F . DB)
115 105 95 85 75 65 55
100 105 110 115 120 125 130 135 140 145 150 155 160 165
SUCTION PRESSURE (PSIG)
-B102, CIRCUIT 2
92-102259-09-00

Figure 43: System Charging Charts - MPS 010B Cooling

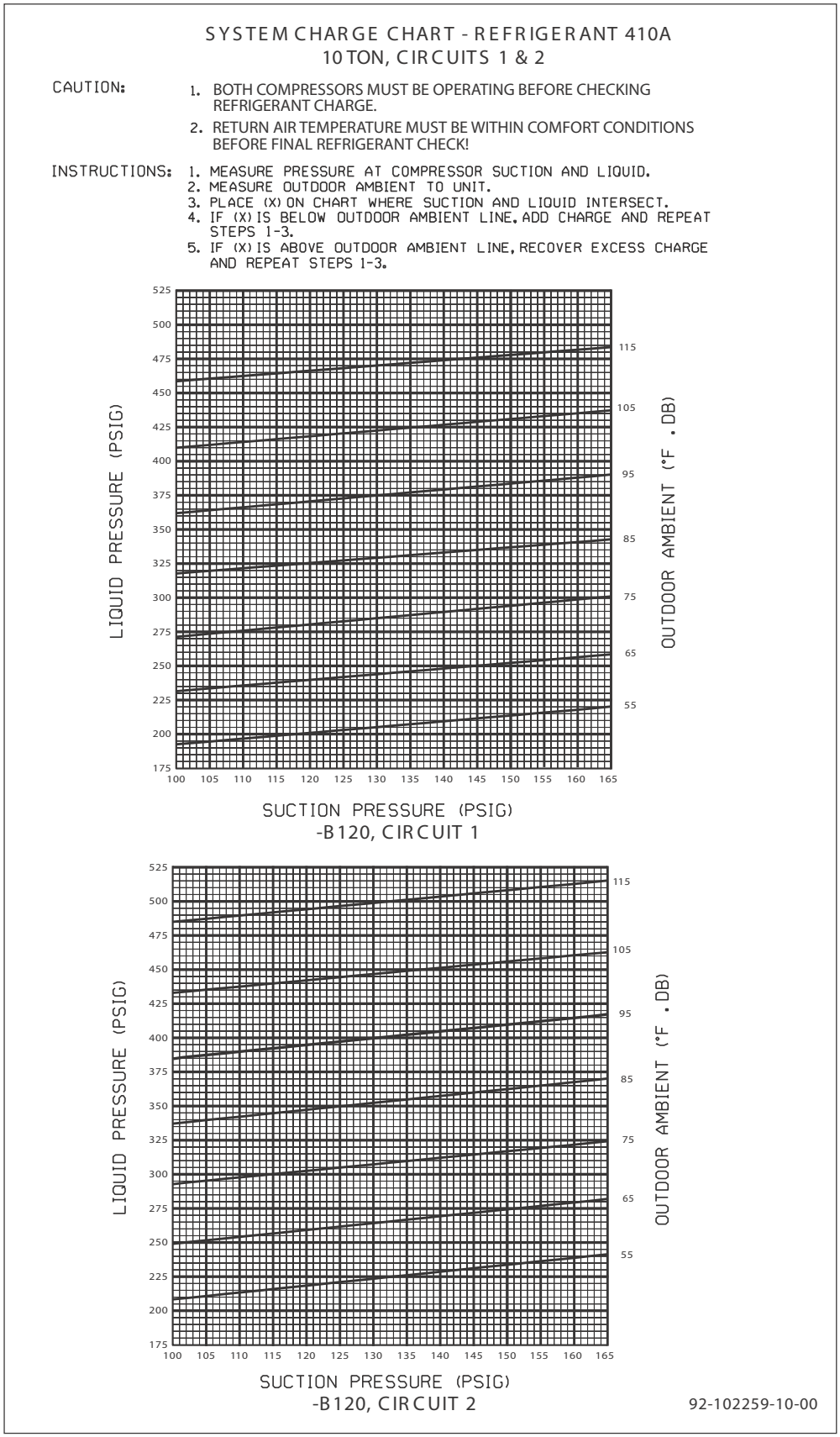
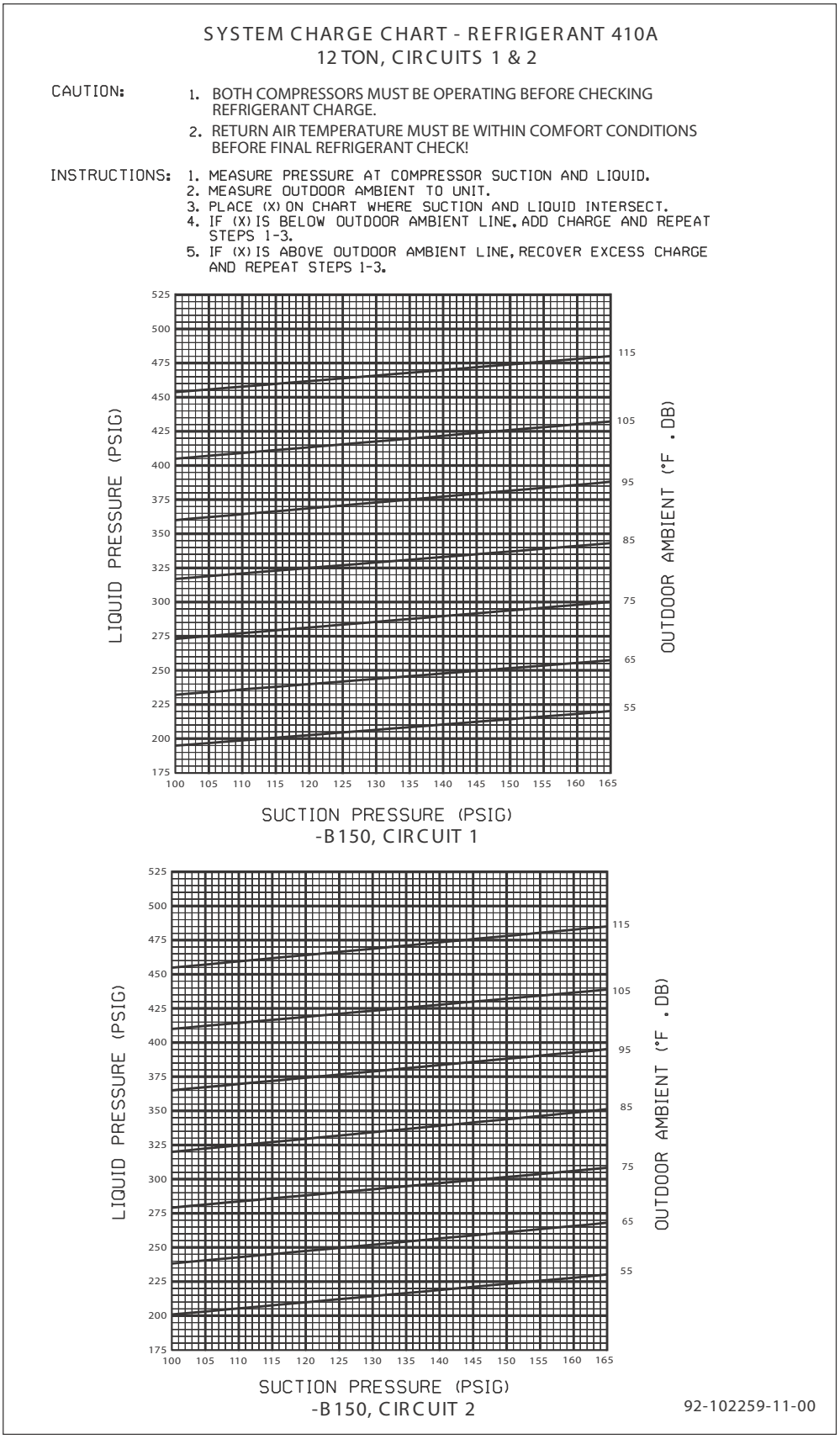

SYSTEM CHARGE CHART - REFRIGERANT 410A
10 TON, CIRCUITS 1 & 2
CAUTION:
1. BOTH COMPRESSORS MUST BE OPERATING BEFORE CHECKING REFRIGERANT CHARGE.
2. RETURN AIR TEMPERATURE MUST BE WITHIN COMFORT CONDITIONS BEFORE FINAL REFRIGERANT CHECK!
INSTRUCTIONS:
1. MEASURE PRESSURE AT COMPRESSOR SUCTION AND LIQUID.
2. MEASURE OUTDOOR AMBIENT TO UNIT.
3. PLACE (X) ON CHART WHERE SUCTION AND LIQUID INTERSECT.
4. IF (X) IS BELOW OUTDOOR AMBIENT LINE, ADD CHARGE AND REPEAT STEPS 1-3.
5. IF (X) IS ABOVE OUTDOOR AMBIENT LINE, RECOVER EXCESS CHARGE AND REPEAT STEPS 1-3.
LIQUID PRESSURE (PSIG)
525 500 475 450 425 400 375 350 325 300 275 250 225 200 175
OUTDOOR AMBIENT (°F . DB)
115 105 95 85 75 65 55
100 105 110 115 120 125 130 135 140 145 150 155 160 165
SUCTION PRESSURE (PSIG)
-B120, CIRCUIT 1
LIQUID PRESSURE (PSIG)
525 500 475 450 425 400 375 350 325 300 275 250 225 200 175
OUTDOOR AMBIENT (°F . DB)
115 105 95 85 75 65 55
100 105 110 115 120 125 130 135 140 145 150 155 160 165
SUCTION PRESSURE (PSIG)
-B120, CIRCUIT 2
92-102259-10-00

Figure 44: System Charging Charts - MPS 012B Cooling


SYSTEM CHARGE CHART - REFRIGERANT 410A
12 TON, CIRCUITS 1 & 2
CAUTION:
1. BOTH COMPRESSORS MUST BE OPERATING BEFORE CHECKING REFRIGERANT CHARGE.
2. RETURN AIR TEMPERATURE MUST BE WITHIN COMFORT CONDITIONS BEFORE FINAL REFRIGERANT CHECK!
INSTRUCTIONS:
1. MEASURE PRESSURE AT COMPRESSOR SUCTION AND LIQUID.
2. MEASURE OUTDOOR AMBIENT TO UNIT.
3. PLACE (X) ON CHART WHERE SUCTION AND LIQUID INTERSECT.
4. IF (X) IS BELOW OUTDOOR AMBIENT LINE, ADD CHARGE AND REPEAT STEPS 1-3.
5. IF (X) IS ABOVE OUTDOOR AMBIENT LINE, RECOVER EXCESS CHARGE AND REPEAT STEPS 1-3.
LIQUID PRESSURE (PSIG)
525 500 475 450 425 400 375 350 325 300 275 250 225 200 175
OUTDOOR AMBIENT (°F . DB)
115 105 95 85 75 65 55
100 105 110 115 120 125 130 135 140 145 150 155 160 165
SUCTION PRESSURE (PSIG)
-B150, CIRCUIT 1
LIQUID PRESSURE (PSIG)
525 500 475 450 425 400 375 350 325 300 275 250 225 200 175
OUTDOOR AMBIENT (°F . DB)
115 105 95 85 75 65 55
100 105 110 115 120 125 130 135 140 145 150 155 160 165
SUCTION PRESSURE (PSIG)
-B150, CIRCUIT 2
92-102259-11-00

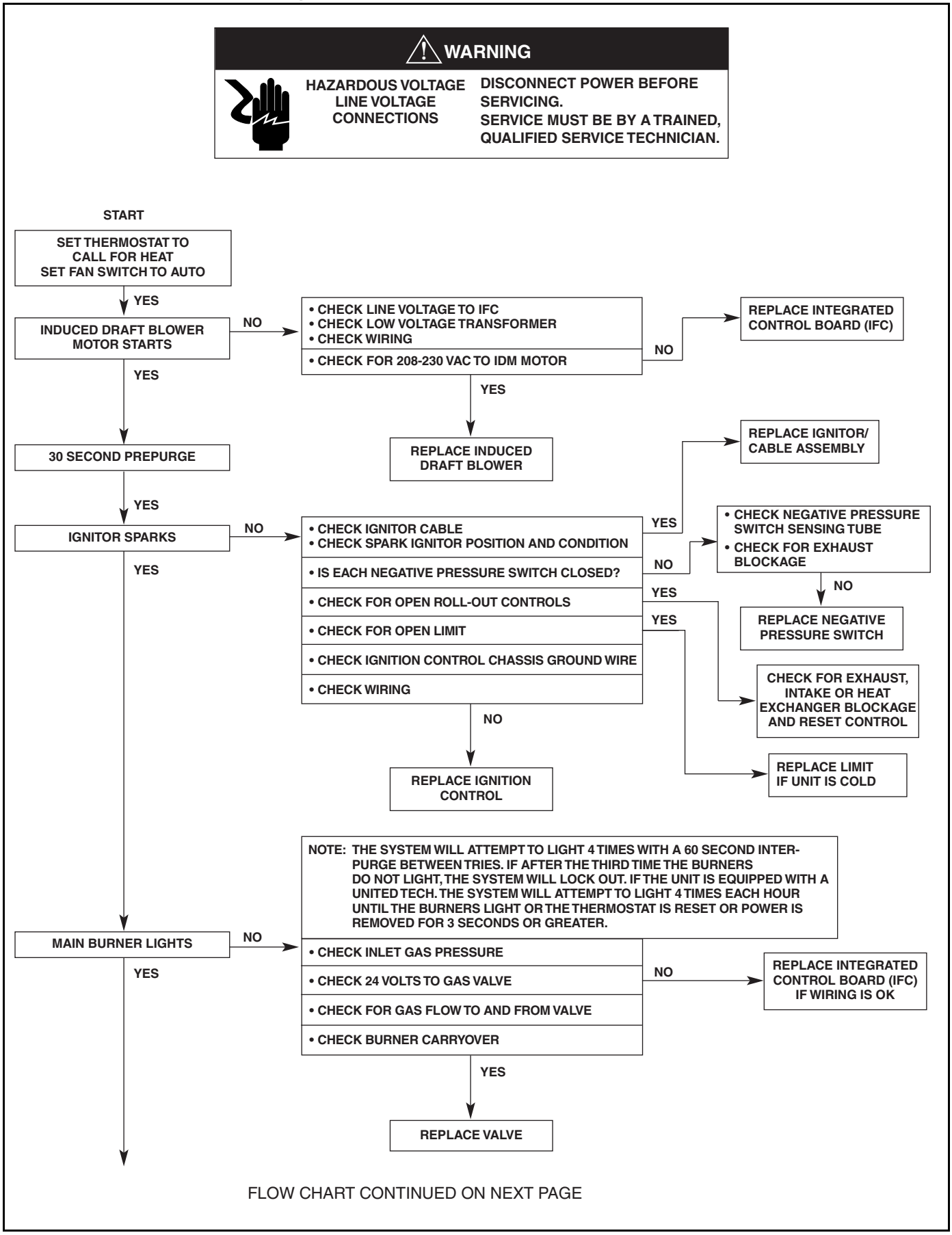
Cooling Troubleshooting Chart

⚠ DANGER

Disconnect all power to unit before servicing. Contactor may break only one side. Failure to shut off power can cause electrical shock resulting in personal injury or death.

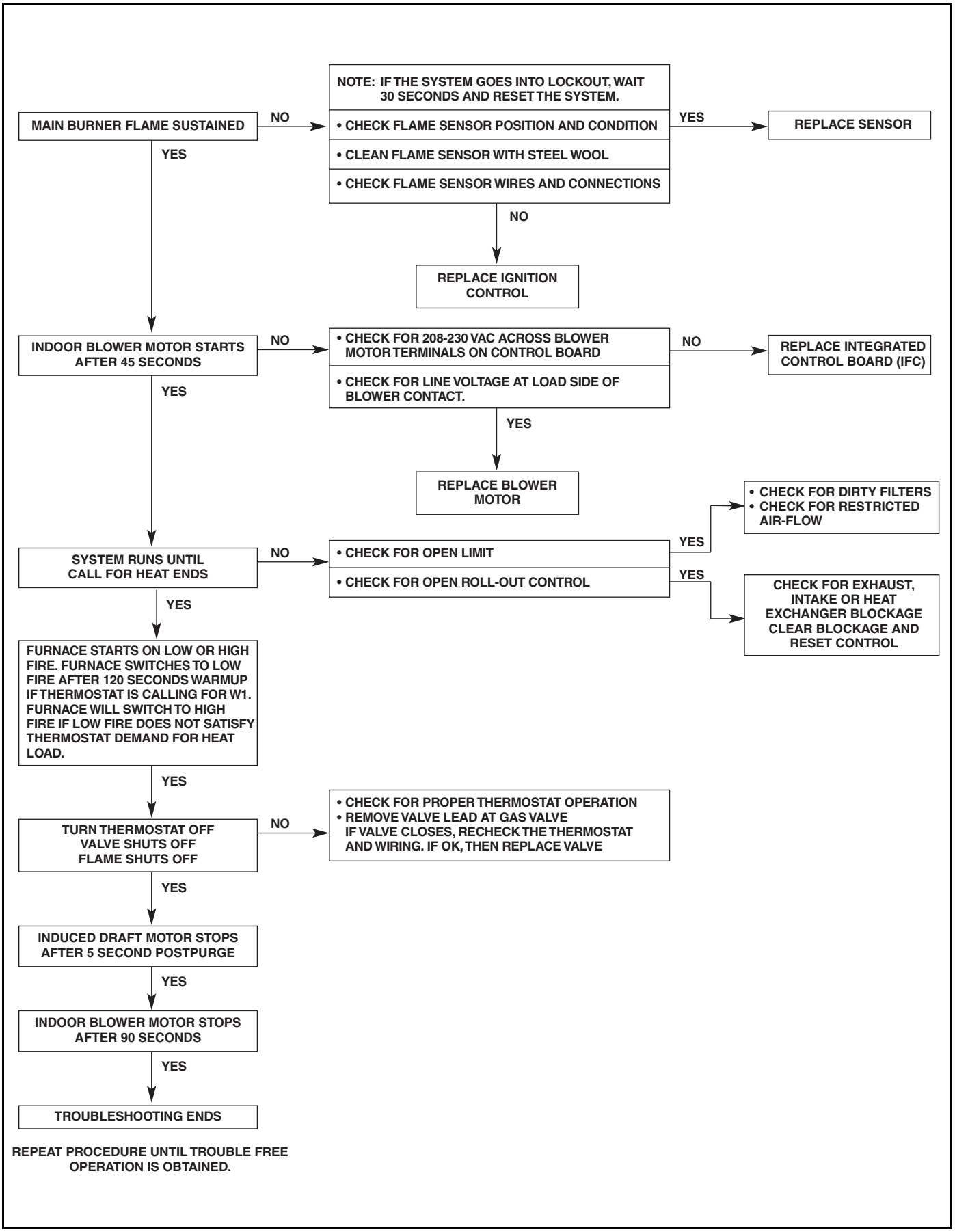
SYMPTOM	POSSIBLE CAUSE	REMEDY
Unit will not run	Power off or loose electrical connection	Check for correct voltage at compressor contactor in control box
	Thermostat out of calibration-set too high	Reset
	Failed contactor	Check for 24 volts at contactor coil replace if contacts are open
	Blown fuses	Replace fuses
	Transformer defective	Check wiring-replace transformer
	High pressure control open (if provided)	Reset-also see high head pressure remedy-The high pressure control opens at 450 PSIG
	Interconnecting low voltage wiring damaged	Replace thermostat wiring
Condenser fan runs, compressor doesn't	Loose connection	Check for correct voltage at compressor check & tighten all connections
	Compressor stuck, grounded or open motor winding, open internal overload.	Wait at least 2 hours for overload to reset. If still open, replace the compressor.
	Low voltage condition	At compressor terminals, voltage must be within 10% of rating plate volts when unit is operating
	Low voltage condition	Add start kit components
Insufficient cooling	Improperly sized unit	Recalculate load
	Improper airflow	Check should be approximately 400 CFM per ton.
	Incorrect refrigerant charge	Charge per procedure attached to unit service panel
	Air, non-condensable or moisture in system	Recover refrigerant, evacuate & recharge, add filter drier
	Incorrect voltage	At compressor terminals, voltage must be within 10% of rating plate volts when unit is operating.
Compressor short cycles	Incorrect voltage	At compressor terminals, voltage must be ±10% of nameplate marking when unit is operating.
	Defective overload protector	Replace check for correct voltage
	Refrigerant undercharge	Add refrigerant
Registers sweat	Low evaporator airflow	Increase speed of blower or reduce restriction replace air filter
High head-low vapor pressures	Restriction in liquid line, expansion device or filter drier	Remove or replace defective component
	Flow check piston size too small	Change to correct size piston
	Incorrect capillary tubes	Change coil assembly
High head-high or normal vapor pressure Cooling mode	Dirty condenser coil	Clean coil
	Refrigerant overcharge	Correct system charge
	Condenser fan not running	Repair or replace
	Air or non-condensable in system	Recover refrigerant, evacuate & recharge
Low vapor - cool compressor iced evaporator coil	Defective Compressor valves	Replace compressor
	Incorrect capillary tubes	Replace coil assembly
Low vapor cool evaporator coil	Low evaporator airflow	Increase speed of blower or reduce restriction replace air filter
	Operating below 65°F outdoors	Add Low Ambient Kit
	Moisture in system	Recover refrigerant evacuate & recharge add filter drier
High vapor pressure	Excessive load	Recheck load calculation
	Defective compressor	Replace
Fluctuating head & vapor	Air or non-condensate in system	Recover refrigerant, evacuate & recharge
Gurgle or pulsing noise at expansion device or liquid line	Air or non-condensable in system	Recover refrigerant, evacuate & recharge

Furnace Troubleshooting Guide


WARNING
HAZARDOUS VOLTAGE
LINE VOLTAGE
CONNECTIONS
DISCONNECT POWER BEFORE SERVICING.
SERVICE MUST BE BY A TRAINED, QUALIFIED SERVICE TECHNICIAN.
START
SET THERMOSTAT TO CALL FOR HEAT
SET FAN SWITCH TO AUTO
YES
INDUCED DRAFT BLOWER MOTOR STARTS
NO
• CHECK LINE VOLTAGE TO IFC
• CHECK LOW VOLTAGE TRANSFORMER
• CHECK WIRING
• CHECK FOR 208-230 VAC TO IDM MOTOR
NO
REPLACE INTEGRATED CONTROL BOARD (IFC)
YES
REPLACE INDUCED DRAFT BLOWER
YES
30 SECOND PREPURGE
YES
IGNITOR SPARKS
NO
• CHECK IGNITOR CABLE
• CHECK SPARK IGNITOR POSITION AND CONDITION
YES
REPLACE IGNITOR/ CABLE ASSEMBLY
• IS EACH NEGATIVE PRESSURE SWITCH CLOSED?
NO
• CHECK NEGATIVE PRESSURE SWITCH SENSING TUBE
• CHECK FOR EXHAUST BLOCKAGE
NO
REPLACE NEGATIVE PRESSURE SWITCH
• CHECK FOR OPEN ROLL-OUT CONTROLS
YES
CHECK FOR EXHAUST, INTAKE OR HEAT EXCHANGER BLOCKAGE AND RESET CONTROL
• CHECK FOR OPEN LIMIT
YES
REPLACE LIMIT IF UNIT IS COLD
• CHECK IGNITION CONTROL CHASSIS GROUND WIRE
• CHECK WIRING
NO
REPLACE IGNITION CONTROL
YES
NOTE: THE SYSTEM WILL ATTEMPT TO LIGHT 4 TIMES WITH A 60 SECOND INTER-PURGE BETWEEN TRIES. IF AFTER THE THIRD TIME THE BURNERS DO NOT LIGHT, THE SYSTEM WILL LOCK OUT. IF THE UNIT IS EQUIPPED WITH A UNITED TECH. THE SYSTEM WILL ATTEMPT TO LIGHT 4 TIMES EACH HOUR UNTIL THE BURNERS LIGHT OR THE THERMOSTAT IS RESET OR POWER IS REMOVED FOR 3 SECONDS OR GREATER.
MAIN BURNER LIGHTS
NO
• CHECK INLET GAS PRESSURE
• CHECK 24 VOLTS TO GAS VALVE
NO
REPLACE INTEGRATED CONTROL BOARD (IFC) IF WIRING IS OK
• CHECK FOR GAS FLOW TO AND FROM VALVE
• CHECK BURNER CARRYOVER
YES
REPLACE VALVE
YES

FLOW CHART CONTINUED ON NEXT PAGE

Troubleshooting


NOTE: IF THE SYSTEM GOES INTO LOCKOUT, WAIT 30 SECONDS AND RESET THE SYSTEM.
MAIN BURNER FLAME SUSTAINED
NO
• CHECK FLAME SENSOR POSITION AND CONDITION
• CLEAN FLAME SENSOR WITH STEEL WOOL
• CHECK FLAME SENSOR WIRES AND CONNECTIONS
YES
REPLACE SENSOR
YES
NO
REPLACE IGNITION CONTROL
INDOOR BLOWER MOTOR STARTS AFTER 45 SECONDS
NO
• CHECK FOR 208-230 VAC ACROSS BLOWER MOTOR TERMINALS ON CONTROL BOARD
• CHECK FOR LINE VOLTAGE AT LOAD SIDE OF BLOWER CONTACT.
NO
REPLACE INTEGRATED CONTROL BOARD (IFC)
YES
YES
REPLACE BLOWER MOTOR
SYSTEM RUNS UNTIL CALL FOR HEAT ENDS
NO
• CHECK FOR OPEN LIMIT
• CHECK FOR OPEN ROLL-OUT CONTROL
YES
• CHECK FOR DIRTY FILTERS
• CHECK FOR RESTRICTED AIR-FLOW
YES
CHECK FOR EXHAUST, INTAKE OR HEAT EXCHANGER BLOCKAGE CLEAR BLOCKAGE AND RESET CONTROL
YES
FURNACE STARTS ON LOW OR HIGH FIRE. FURNACE SWITCHES TO LOW FIRE AFTER 120 SECONDS WARMUP IF THERMOSTAT IS CALLING FOR W1. FURNACE WILL SWITCH TO HIGH FIRE IF LOW FIRE DOES NOT SATISFY THERMOSTAT DEMAND FOR HEAT LOAD.
YES
TURN THERMOSTAT OFF VALVE SHUTS OFF FLAME SHUTS OFF
NO
• CHECK FOR PROPER THERMOSTAT OPERATION
• REMOVE VALVE LEAD AT GAS VALVE IF VALVE CLOSES, RECHECK THE THERMOSTAT AND WIRING. IF OK, THEN REPLACE VALVE
YES
INDUCED DRAFT MOTOR STOPS AFTER 5 SECOND POSTPURGE
YES
INDOOR BLOWER MOTOR STOPS AFTER 90 SECONDS
YES
TROUBLESHOOTING ENDS
REPEAT PROCEDURE UNTIL TROUBLE FREE OPERATION IS OBTAINED.

Replacement Parts

To find your local Daikin Applied Certified Parts Distributor, go to www.DaikinApplied.com and select Parts Locator.

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